

ABINGTON TOWNSHIP



EARTH DAY
APRIL 22, 2021
7:30 PM



Abington Township
CLIMATE ACTION PLAN

CLIMATE ACTION PLAN

Public Meeting 1

Community Objectives



- **WHY IS ABINGTON DEVELOPING A CAP?**
- **CURRENT AND FUTURE IMPACTS**
- **WHAT IS A CAP?**
- **HOW TO STAY ENGAGED**
- **COMMUNITY INPUT AND DISCUSSION**



WELCOME



BOARD OF COMMISSIONERS GUIDING PRINCIPLES

2019 ABINGTON TOWNSHIP READY FOR 100 CLEAN ENERGY RESOLUTION: A VISION FOR A 100% CLEAN ENERGY FUTURE:

- Striving to transition to 100% clean renewable electricity, community-wide by 2035;
- Striving to transition to 100% clean renewable energy community wide when replacing space conditioning, hot water, and transportation equipment and vehicles by 2050
- Striving to transition Township vehicle fleets to 100% electric vehicles by 2030
- At the request of the Board of Commissioners and Township Manager, the EAC will draft an energy transition plan for achieving these goals

- WHY IS ABINGTON DEVELOPING A CAP?
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AGENDA

- Why is the Township developing a Climate Action Plan?
- Current and future impacts of climate change on our community
- What is a Climate Action Plan?
- How to stay engaged
- Community input and discussion
- Next Steps PEN





COMMUNITY COLLABORATIVE PARTNERS

General Public



The Abington Board of School Directors and the other entities shown assume no responsibilities for the opinions, information, and possible typographical errors and omissions, etc. that may be reflected on this page or throughout this entire presentation.



CLIMATE INITIATIVES

STAR Community Rating – Abington 3-Star Community

Categories

- Built Environment
- Climate and Energy
- Economy and Jobs
- Education, Arts and Community
- Equity and Empowerment
- Health and Safety
- Natural Systems
- Innovation and Process



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION



LEED for Cities

Categories

- Integrative Process
- Natural Systems and Ecology
- Transportation and Land Use
- Water Efficiency
- Energy and Greenhouse Gas Emissions
- Materials and Resources
- Quality of Life
- Innovation
- Regional Priority

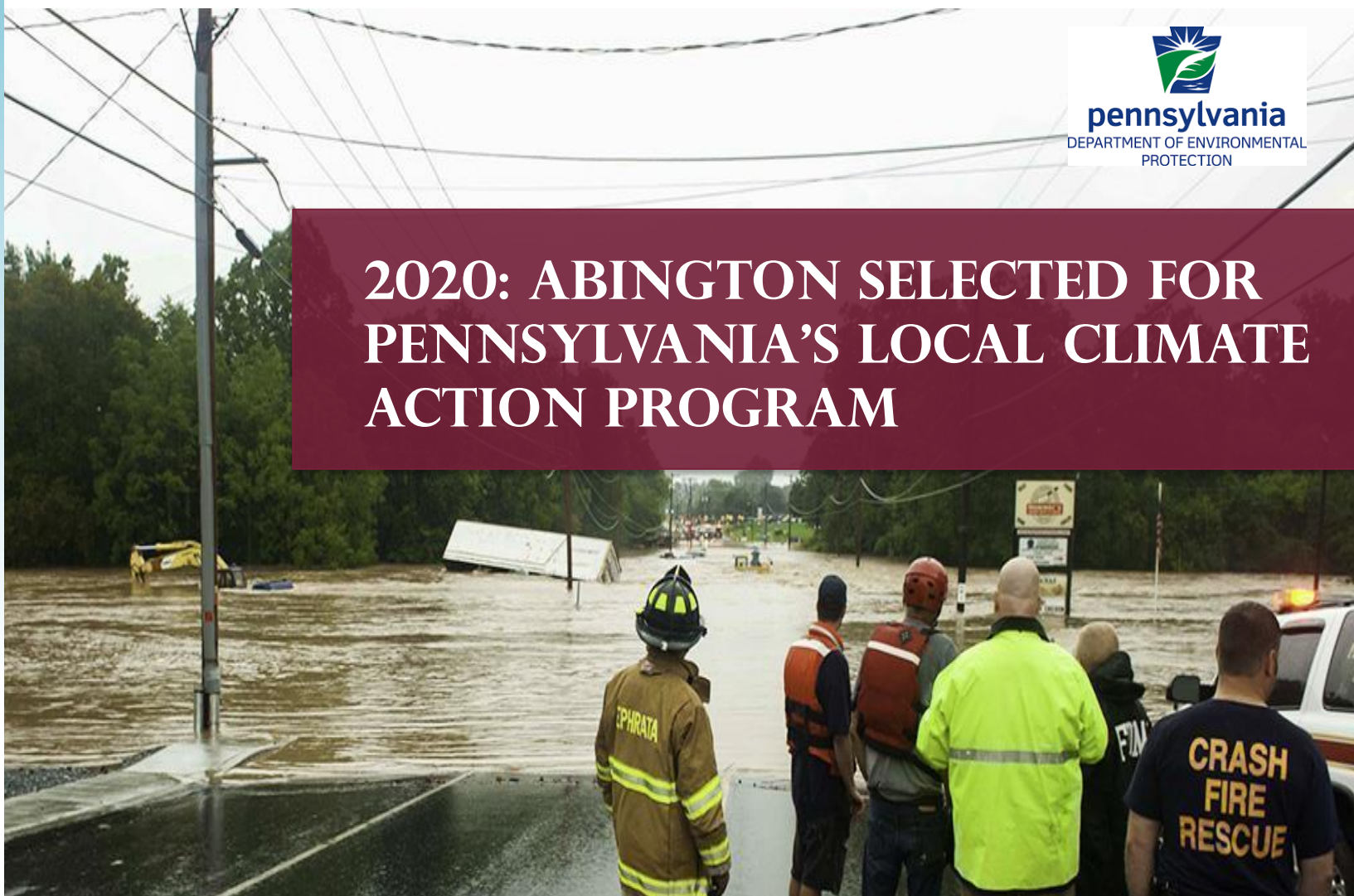
LEED for Cities and Communities: Existing				Project Name			
Project Details				Project ID			
Y T N				Y T N			
Cities Communities				Cities Communities			
1 0 0 INTEGRATIVE PROCESS				1 0 0 INTEGRATIVE PROCESS			
POSSIBLE 5 POSSIBLE 5				POSSIBLE 5 POSSIBLE 5			
Credit Integrative Planning and Leadership				Credit Integrative Planning and Leadership			
Credit Green Building Policy and Incentives				Credit Green Building Policy and Incentives			
2 2 2				2 2 2			
2 0 0 NATURAL SYSTEMS AND ECOLOGY				2 0 0 NATURAL SYSTEMS AND ECOLOGY			
POSSIBLE 8 POSSIBLE 8				POSSIBLE 8 POSSIBLE 8			
Credit Environmental Performance				Credit Environmental Performance			
Credit Green Spaces				Credit Green Spaces			
Credit Natural Resources Conservation and Restoration				Credit Natural Resources Conservation and Restoration			
Credit Light Pollution Reduction				Credit Light Pollution Reduction			
Credit Resilience Planning				Credit Resilience Planning			
2 2 2				2 2 2			
3 0 0 TRANSPORTATION AND LAND USE				3 0 0 TRANSPORTATION AND LAND USE			
POSSIBLE 10 POSSIBLE 10				POSSIBLE 10 POSSIBLE 10			
Credit Compact Mixed Use and Transit Oriented Development				Credit Compact Mixed Use and Transit Oriented Development			
Credit Access to Quality Transit				Credit Access to Quality Transit			
Credit Alternative Fuel Vehicles				Credit Alternative Fuel Vehicles			
Credit Smart Mobility and Transportation Policy				Credit Smart Mobility and Transportation Policy			
Credit High Priority Site				Credit High Priority Site			
2 2 2				2 2 2			
4 0 0 WATER RESOURCES				4 0 0 WATER RESOURCES			
POSSIBLE 11 POSSIBLE 11				POSSIBLE 11 POSSIBLE 11			
Credit Water Access and Quality				Credit Water Access and Quality			
Credit Wastewater Management				Credit Wastewater Management			
Credit Stormwater Management				Credit Stormwater Management			
Credit Smart Water Systems				Credit Smart Water Systems			
2 2 2				2 2 2			
5 0 0 ENERGY AND GREENHOUSE GAS EMISSIONS				5 0 0 ENERGY AND GREENHOUSE GAS EMISSIONS			
POSSIBLE 20 POSSIBLE 20				POSSIBLE 20 POSSIBLE 20			
Credit Power Access, Reliability and Resiliency				Credit Power Access, Reliability and Resiliency			
Credit Energy and Greenhouse Gas Emissions Performance				Credit Energy and Greenhouse Gas Emissions Performance			
Credit Energy Efficiency				Credit Energy Efficiency			
Credit Renewable Energy				Credit Renewable Energy			
Credit Low Carbon Economy				Credit Low Carbon Economy			
Credit Grid Modernization				Credit Grid Modernization			
2 2 2				2 2 2			
6 0 0 MATERIALS AND RESOURCES				6 0 0 MATERIALS AND RESOURCES			
POSSIBLE 10 POSSIBLE 10				POSSIBLE 10 POSSIBLE 10			
Credit Materials Management				Credit Materials Management			
Credit Sustainable Procurement				Credit Sustainable Procurement			
Credit Sustainable Sourcing for Infrastructure				Credit Sustainable Sourcing for Infrastructure			
Credit Material Recovery				Credit Material Recovery			
Credit Smart Waste Management Systems				Credit Smart Waste Management Systems			
2 2 2				2 2 2			
7 0 0 QUALITY OF LIFE				7 0 0 QUALITY OF LIFE			
POSSIBLE 20 POSSIBLE 20				POSSIBLE 20 POSSIBLE 20			
Credit Demographic Assessment				Credit Demographic Assessment			
Credit Quality of Life Performance				Credit Quality of Life Performance			
Credit Transit Improvements				Credit Transit Improvements			
Credit Distribution Equity				Credit Distribution Equity			
Credit Environmental Justice				Credit Environmental Justice			
Credit Housing and Transportation Affordability				Credit Housing and Transportation Affordability			
Credit Civic and Community Engagement				Credit Civic and Community Engagement			
Credit Civic and Human Rights				Credit Civic and Human Rights			
2 2 2				2 2 2			
8 0 0 INNOVATION				8 0 0 INNOVATION			
POSSIBLE 6 POSSIBLE 6				POSSIBLE 6 POSSIBLE 6			
Credit Innovation				Credit Innovation			
2 2 2				2 2 2			
9 0 0 REGIONAL PRIORITY				9 0 0 REGIONAL PRIORITY			
POSSIBLE 4 POSSIBLE 4				POSSIBLE 4 POSSIBLE 4			
Credit Regional Priority				Credit Regional Priority			
2 2 2				2 2 2			
TOTAL				TOTAL			
40-60				40-60			
CERTIFIED				CERTIFIED			
60-69				60-69			
SILVER				SILVER			
70-79				70-79			
GOLD				GOLD			
80-100				80-100			
PLATINUM				PLATINUM			





2020: ABINGTON SELECTED FOR PENNSYLVANIA'S LOCAL CLIMATE ACTION PROGRAM

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- CURRENT AND FUTURE IMPACTS
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PA STATE PLAN AND LOCAL CLIMATE ACTION PLANS

▶ Lead by Example – Local Government

- Establish energy management plan for public facilities
- Track energy and water usage via Energy Star Portfolio Manager
- Maximize onsite renewable energy generation and purchase RECs
- Consider Energy Star and LEED certification, as well as net zero and Passive House standards for new construction and major renovation of public facilities
- Implement climate resilience in public facilities, such as least impact backup power generation and climate resilient vegetation
- Require energy efficient and alternative fuel use in fleet vehicles
- Enroll facility managers in energy efficiency training
- Learn from best practices within and outside of PA

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Source: 2018 PA Climate Action Plan



PUBLIC WORKS- RECYCLING

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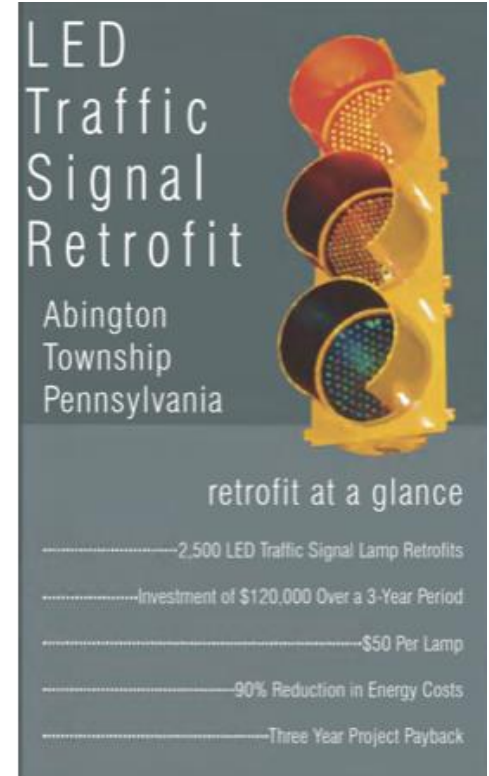
- Pay as You Throw Program
 - Commingle Recycling
 - Paper Recycling
- Leaf and yard waste collection
 - Composted into mulch
- Education campaign
- Reduction in vehicle miles traveled
- Over 15,000 tons of recycled items collected





AMONG THE FIRST IN THE REGION TO:

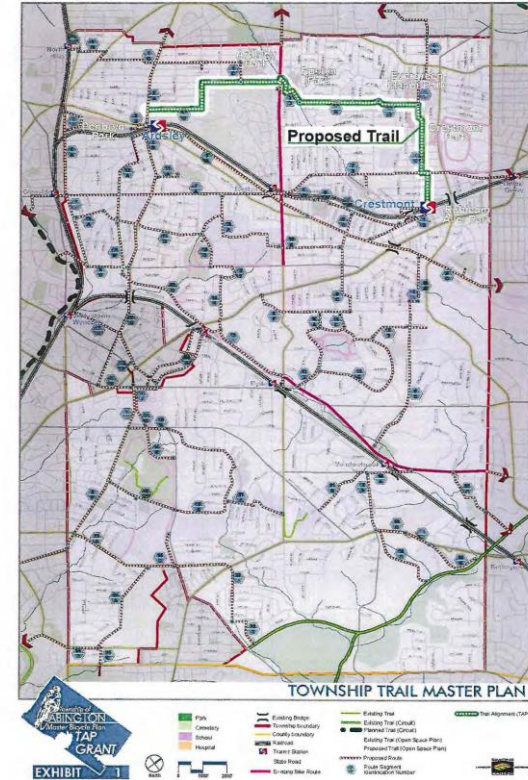
- Replace incandescent bulbs with LEDs
- Expected 5 year payback achieved in 3 years
- Reduced traffic light energy costs from over \$130K/year to only \$10K – a 90% reduction
- Relied on in-house labor to reduce costs
- Replaced 2500 lamps at 120 intersections and pedestrian crossings
- Saves 934 MwH and reduces 495 tons of Township harmful greenhouse gas emissions annually





OTHER ENERGY RELATED ACCOMPLISHMENTS

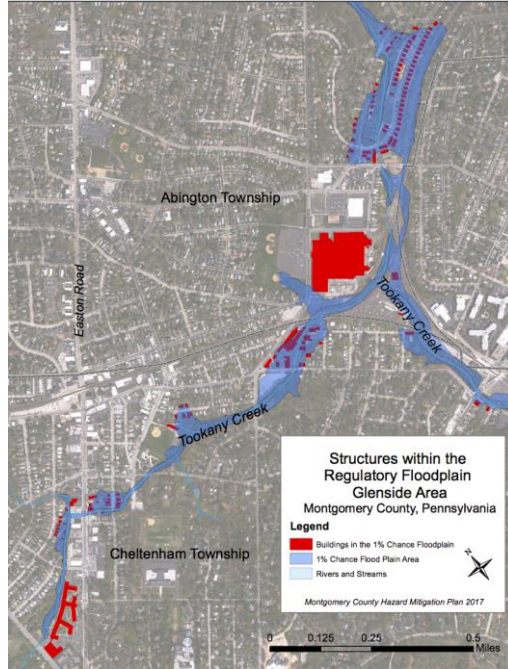
- Upgrade of 5,000 street lights to LED
- LED upgrades at some Township facilities including the Abington Free Library, Crestmont Park, Administration Building and Wastewater Treatment Plant
- Trail connections to public transit and local parks





2017 MONTGOMERY COUNTY HAZARD MITIGATION PLAN

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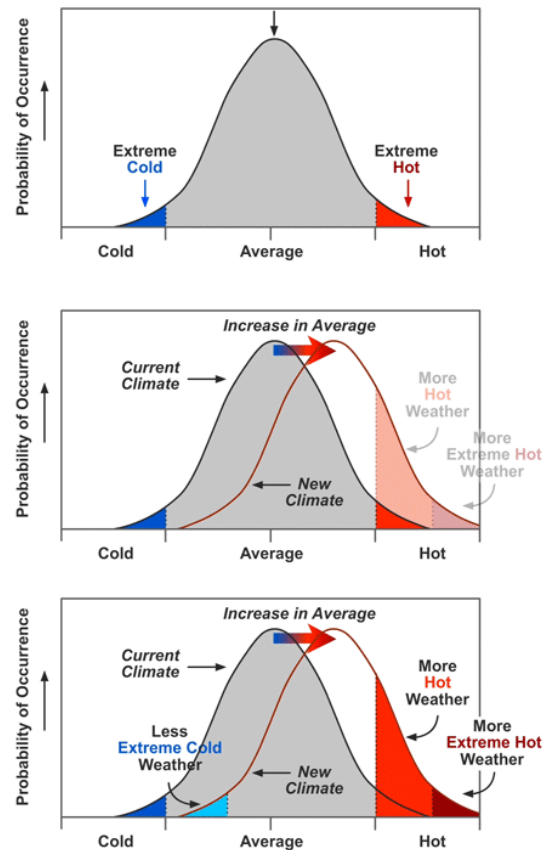




Climate vs. Weather

Climate – average conditions of a place over a long period of time

Weather – atmospheric conditions at a particular place and time

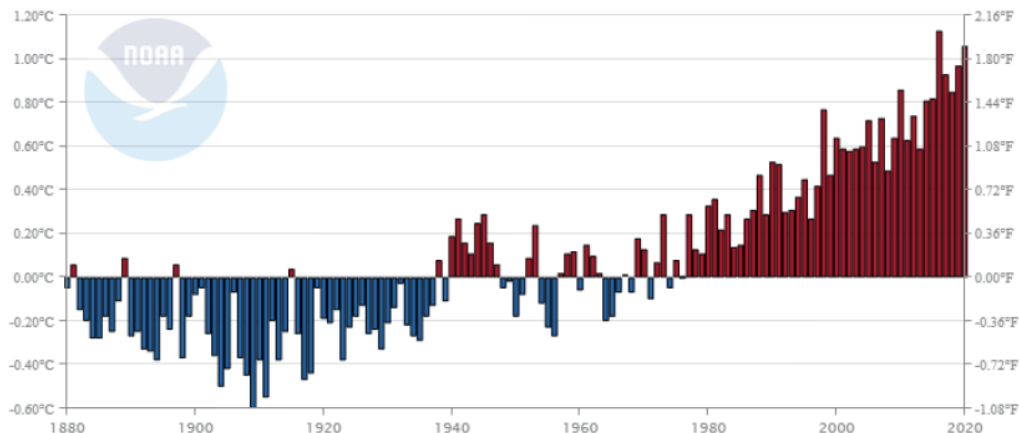


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Climate Change

Global Land and Ocean
April Temperature Anomalies



[Time Machine](#)

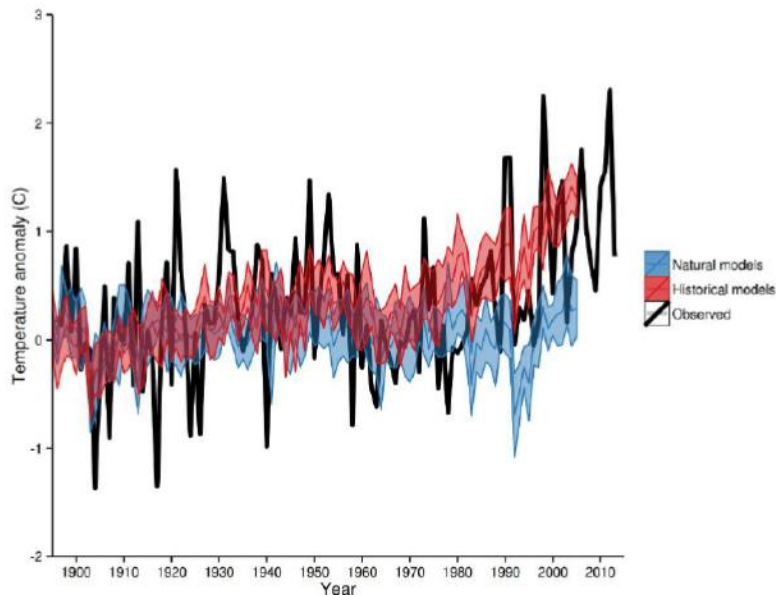
[Climate Explorer
-Abington](#)

April 2020 was 1.06°C (1.91°F) above the 20th century average of 13.7°C (56.7°F) and the second highest April temperature in the 141-year record.



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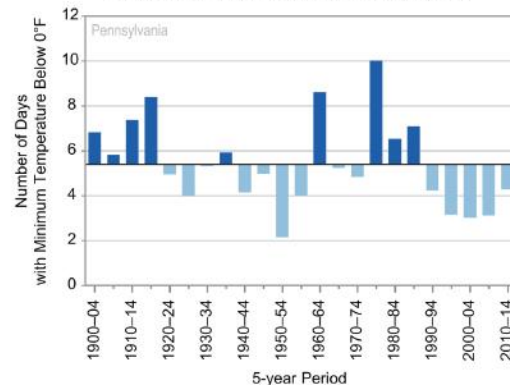
Observed changes in PA



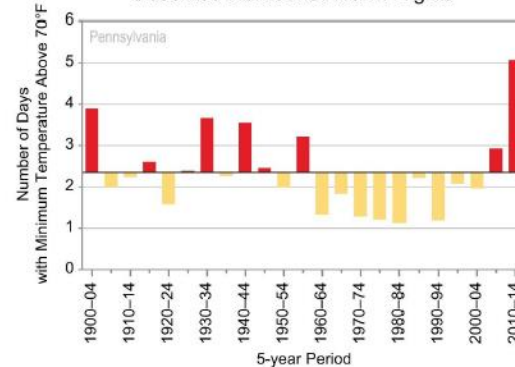
Annual mean temperature anomaly
(with respect to 1900-1929)

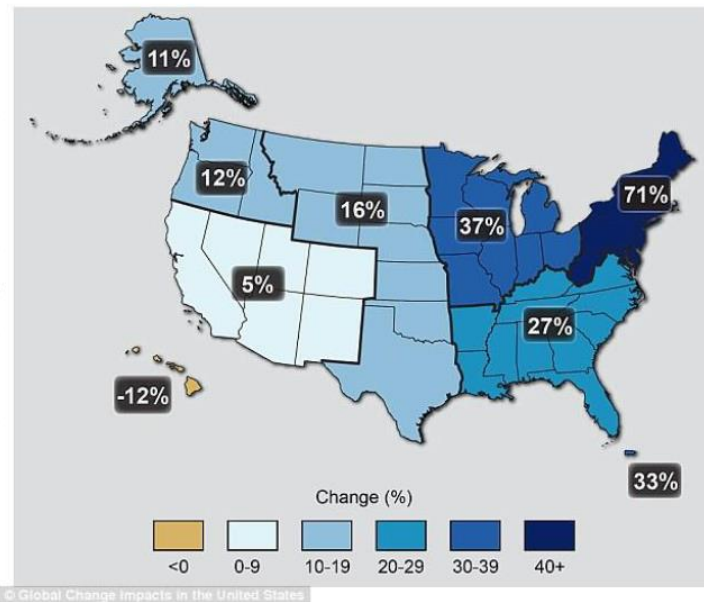
*From PA Climate Impact Assessment
Update 2015*

Observed Number of Very Cold Nights



Observed Number of Warm Nights





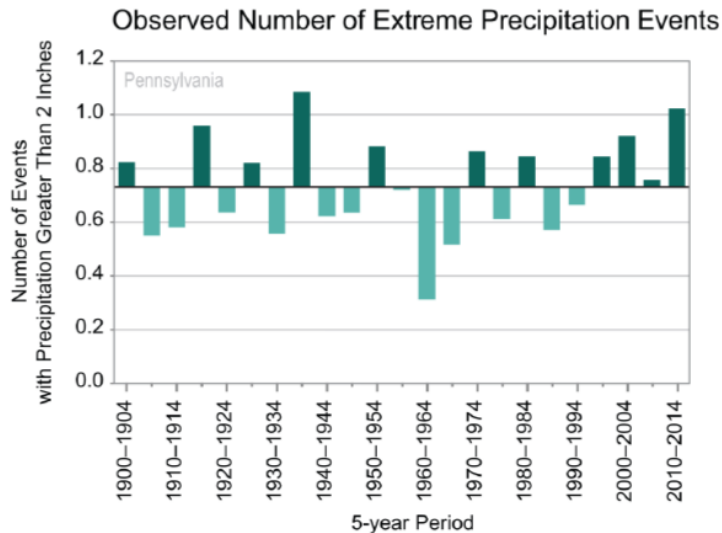
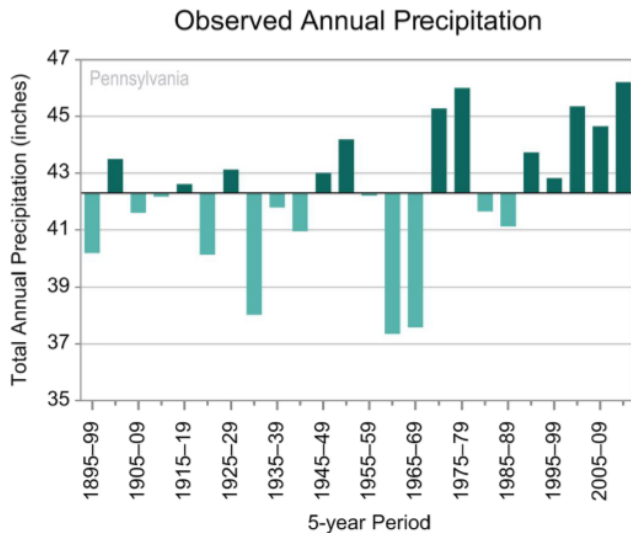
US National Climate Assessment

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More moisture in atmosphere = more precipitation

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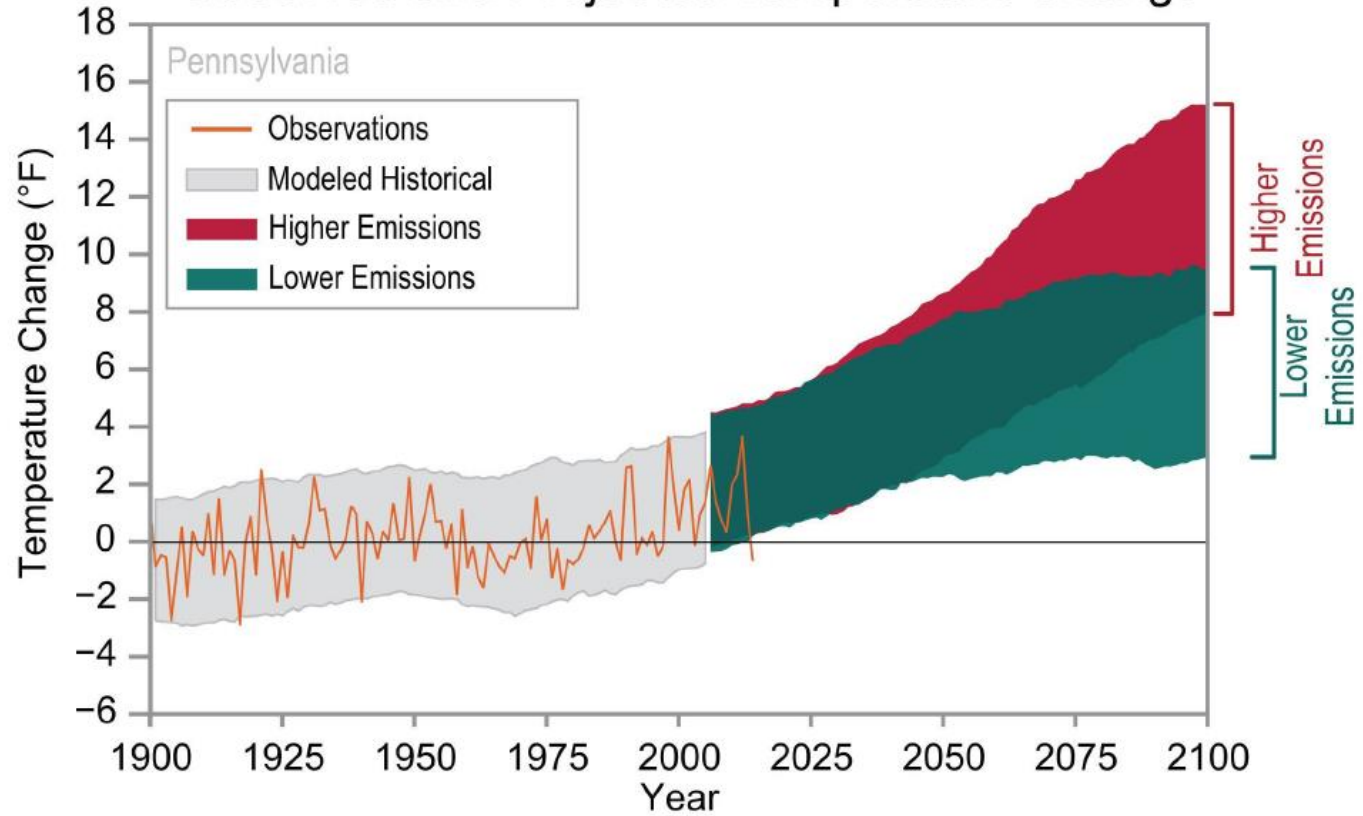




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Observed and Projected Temperature Change





Climate Change in PA

- Temperature increased 1.8°F since last century
- By 2050 PA will be 5.4°F (3°C) warmer than 2000.
- In 2050 Philadelphia will have the climate of Richmond, VA and Pittsburgh will have Washington, DC.
- More days with temperatures over 90°F
- The average precipitation to increase by 15-20% (winter), 10-15% (spring), 0-5% (summer), and 0-5% (fall) by the late 21st century Increased risk of flooding – increased runoff leads to reduced water quality.
- Snow cover decline by 20-60% (no winter sports by mid-century).
- Increased probability that storms will be stronger with heavier rainfall.
- Non-tropical extreme rainfall events will increase.

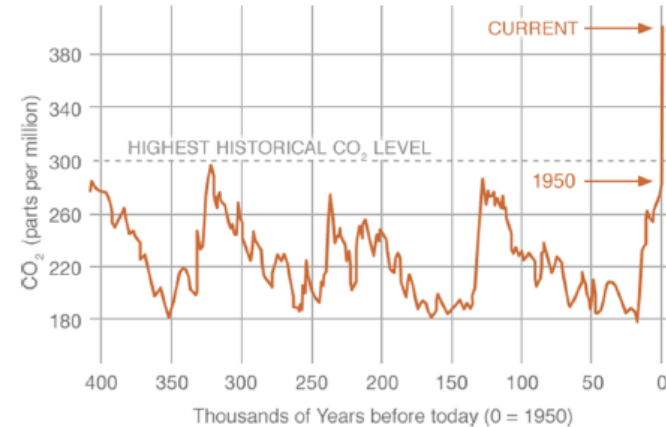
Climate Impacts Assessment Update (PSU for DEP)





Some Causes: Carbon Dioxide

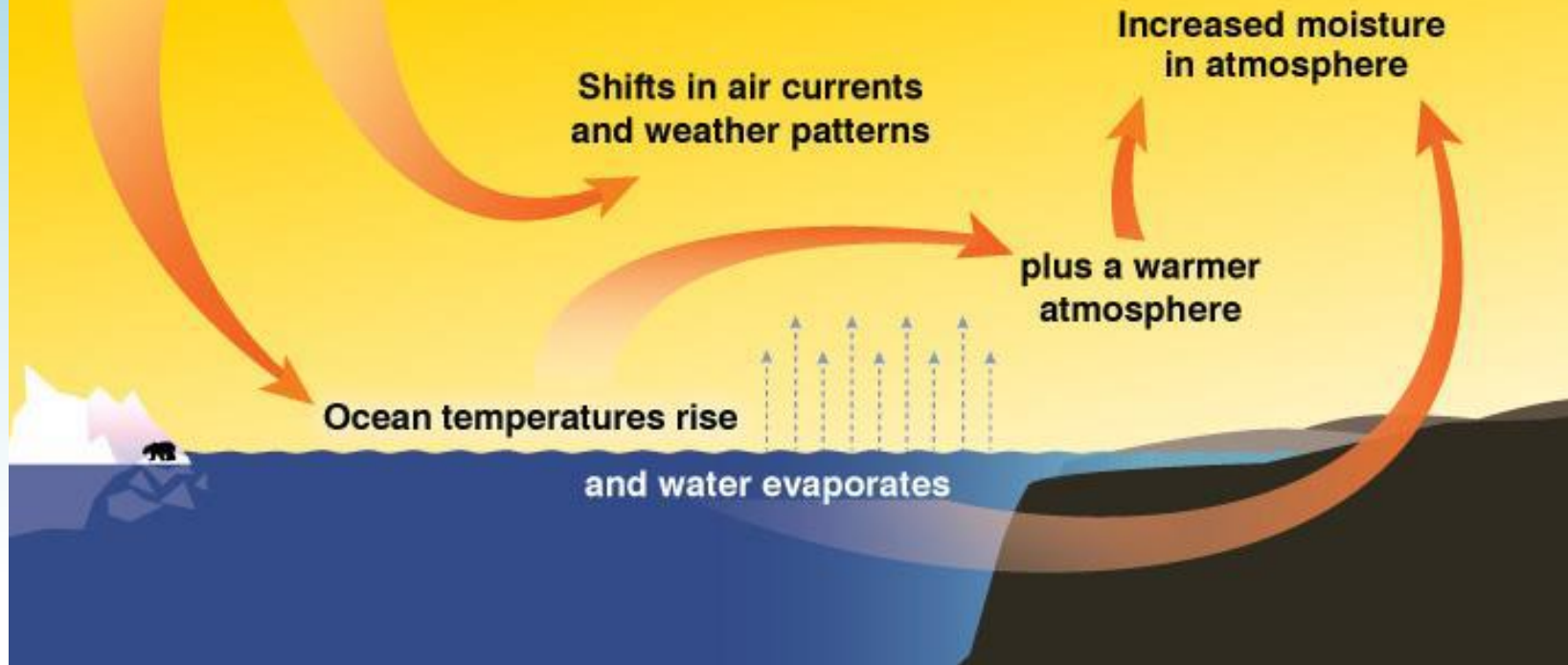
Fossil fuel emissions lead to increased carbon dioxide in the atmosphere which contributes to the rise in global temperatures



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Rising global temperatures



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<https://www.edf.org/climate/climate-change-and-extreme-weather>



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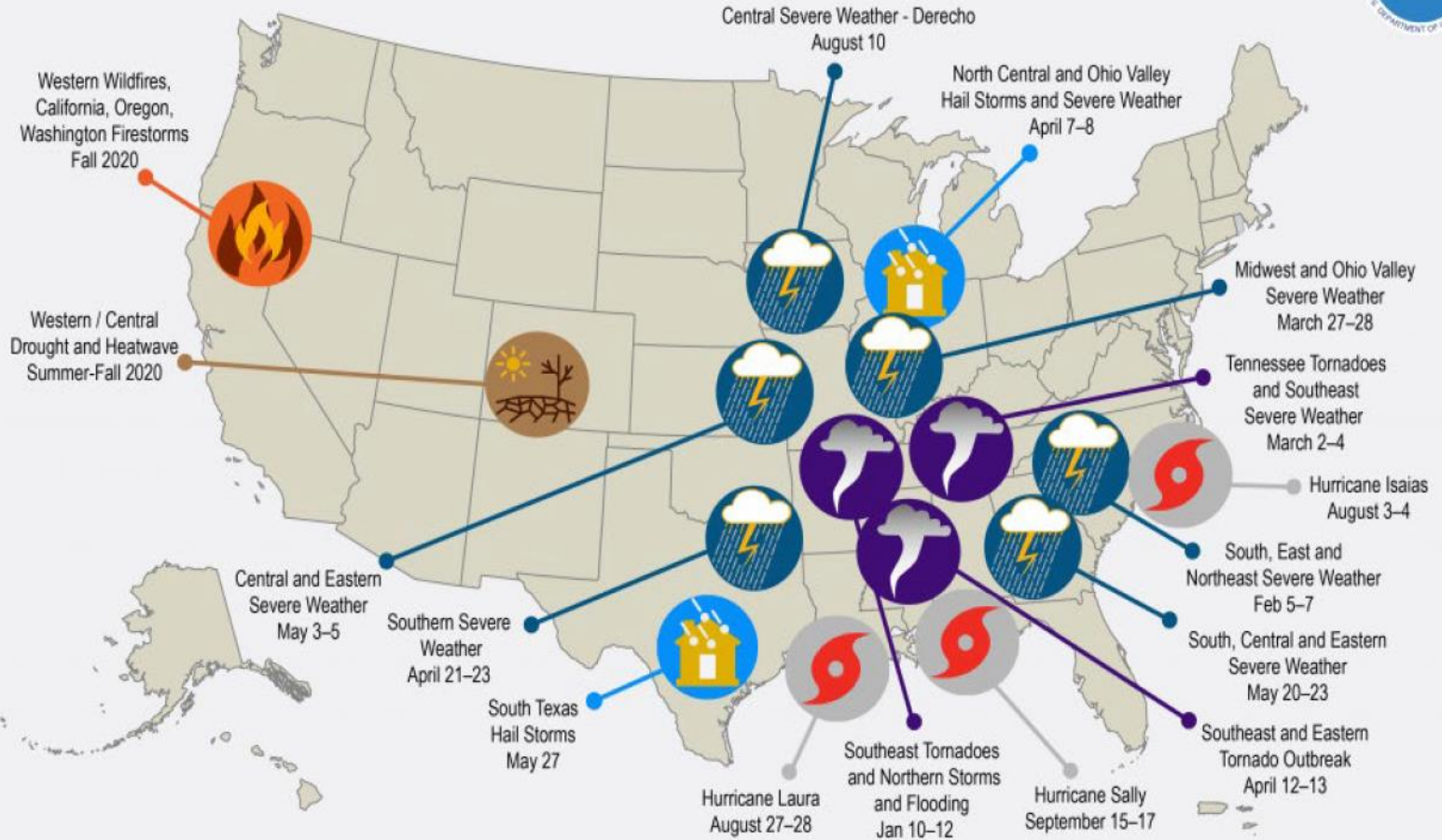
“Climate Change is an **urgent and growing threat to our national security**, contributing to increased natural disasters, refugee flows and conflicts over basic resources such as food and water. These **impacts are already occurring**, and the scope, scale and intensity of these impacts are projected to increase over time. “

- National Security Strategy, 2015





U.S. 2020 Billion-Dollar Weather and Climate Disasters



This map denotes the approximate location for each of the 16 separate billion-dollar weather and climate disasters that impacted the United States from January–September 2020.

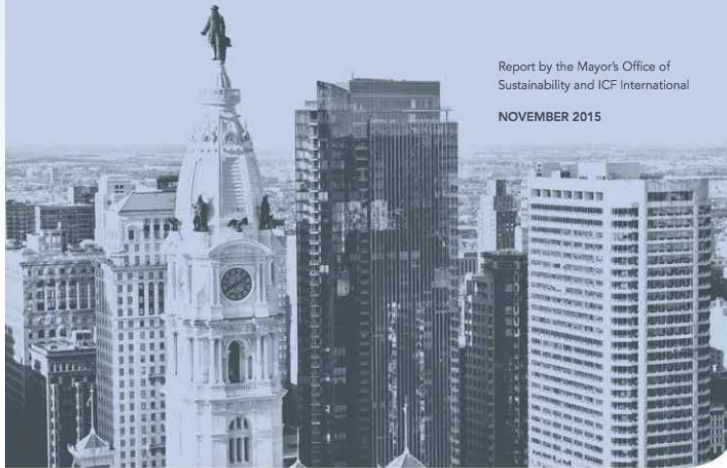
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GROWING STRONGER:

TOWARD A CLIMATE-READY PHILADELPHIA

Report by the Mayor's Office of
Sustainability and ICF International
NOVEMBER 2015



This report depicts historical climate change since 2010 for the region to include:

- The warmest summers and wettest years on record
- An increase in hurricanes
- A 2012 first time ever **derecho**
- End of this century projections of four to 10 times as many days per year above 95 degrees Fahrenheit
- End of this century projections of as many as 16 days a year above 100 degrees Fahrenheit
- Impact: increase in health-related problems such as asthma, cardiovascular disease, COPD, and other respiratory diseases from higher levels of ozone, as well as adverse effects on regional transit, watersheds, stormwater and wastewater management





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June 2020 Montgomery County derecho that killed three citizens

FIRST ALERT

Rare Derecho Kills 3 in Montco, Tornado Scare for Philly Hours Later; Thousands Without Power

There were widespread reports of damage after hurricane force winds blew through neighborhoods in Pennsylvania and New Jersey

By NBC10 First Alert Weather Team • Published June 2, 2020 • Updated on June 4, 2020 at 11:16 am





January 14, 2020

World's biggest fund manager vows to divest from thermal coal

BlackRock CEO says climate crisis will now dictate investments but environmentalists remain wary



▲ BlackRock boss Larry Fink says protesters, such as these people in Australia, have been quicker to recognise the climate crisis than the financial sector. Photograph: Jenny Evans/Getty Images

BlackRock

CEO and Chairman
Larry Fink



Fossil fuel reserves
under management

Oil 3.27bn barrels

Coal 1.35bn tons

Gas 21.7tn cubic ft

Fossil fuel portfolio in
listed funds

\$87.3bn

Held in algorithm-run
funds

88.7%

Source: InfluenceMap

▲ BlackRock's fossil fuel investments Photograph: The Guardian



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October 6, 2020

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MARKETS

JPMorgan Pledges to Push Clients to Align With Paris Climate Agreement

The bank, long under pressure from climate activists, says lowering emissions can help a company attract capital and stay relevant



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U.S. Politics Opinion Business Entertainment Sports Lifestyle TV Fox Nation Listen More :

Hot Topics LIVE UPDATES: Trump, Biden ramp up personal attacks

ENERGY - Published April 6, 2017 - Last Update November 15, 2017

Kentucky Coal Mining Museum switches to solar power

Brandon Robinson, Communications Director of the Museum said **the reason was to save money in the long run.**

"We believe that this project will help save at least \$8,000 to \$10,000 off the energy costs on this building alone"



The 6 largest banks will NOT fund drilling in the Arctic

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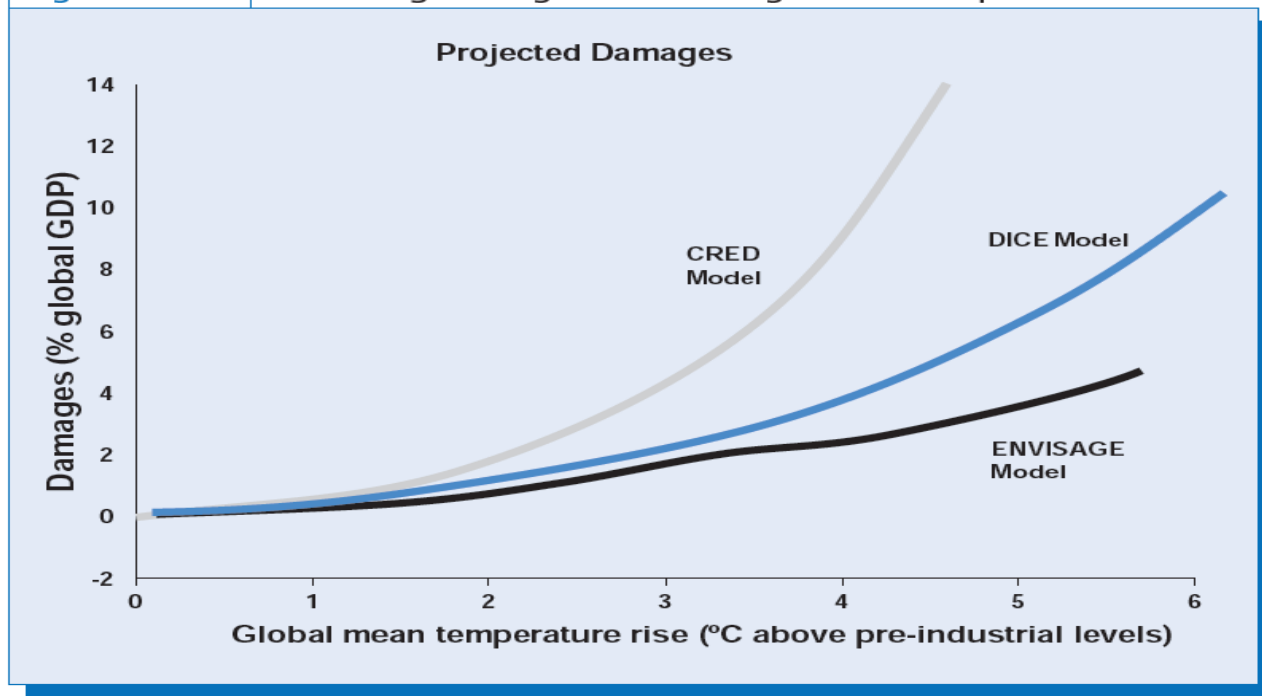
December 1st, 2020





Potential Damages from Climate Change

Figure 12.11 Increasing Damages from Rising Global Temperatures



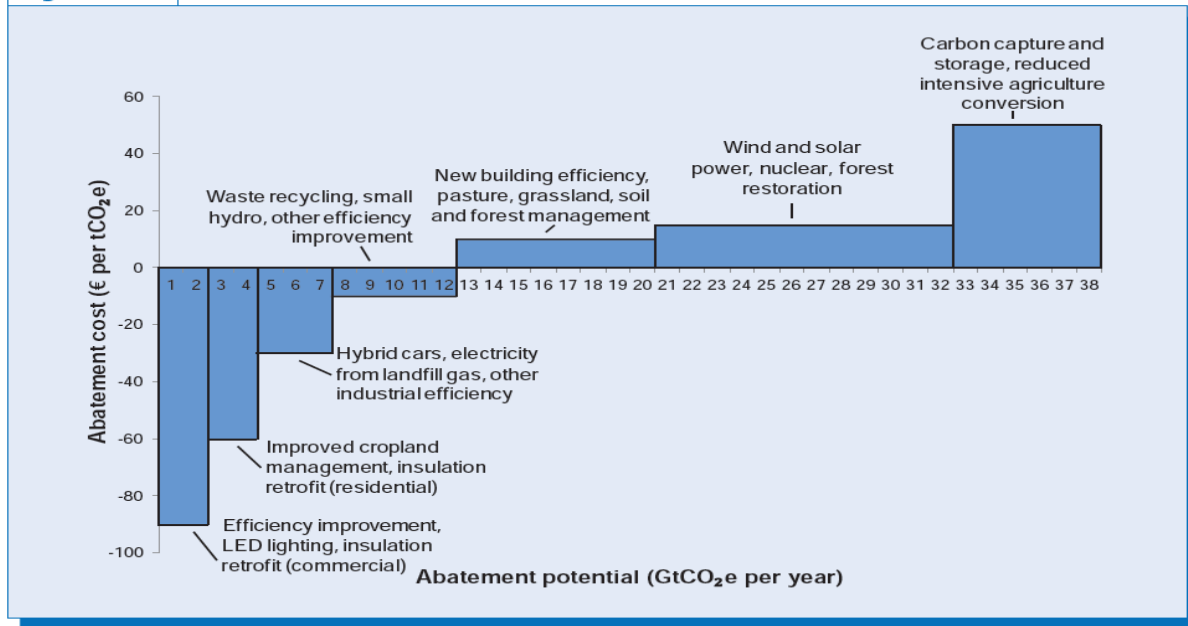
Source: Revesz *et al.*, 2014, <http://www.nature.com/news/global-warming-improve-economic-models-of-climate-change-1.14991>.

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Cost Estimates of Climate Mitigation

Figure 13.7 Global Greenhouse Gas Abatement Cost Curve for 2030



Source: Adapted from McKinsey & Company, 2009.

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Cancer

- A scary word
- Many socially accepted things are proven to cause it
- Insidious
- Overwhelming amount of information available
- Has many consequences

Society mobilized to combat cancer

This image represents a different era



Abington Township
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Climate change

- A scary phrase
- Many socially accepted things are proven to cause it
- Insidious
- Overwhelming amount of information available
- Has consequences

Society needs to mobilize to combat climate change





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Why has
climate
change
become
a national
priority NOW?


- It became personal
- Finally indisputable
- Unprecedentedly visible:
 - Record breaking wild fires
 - Record breaking hurricanes
 - National air pollution






Impacts

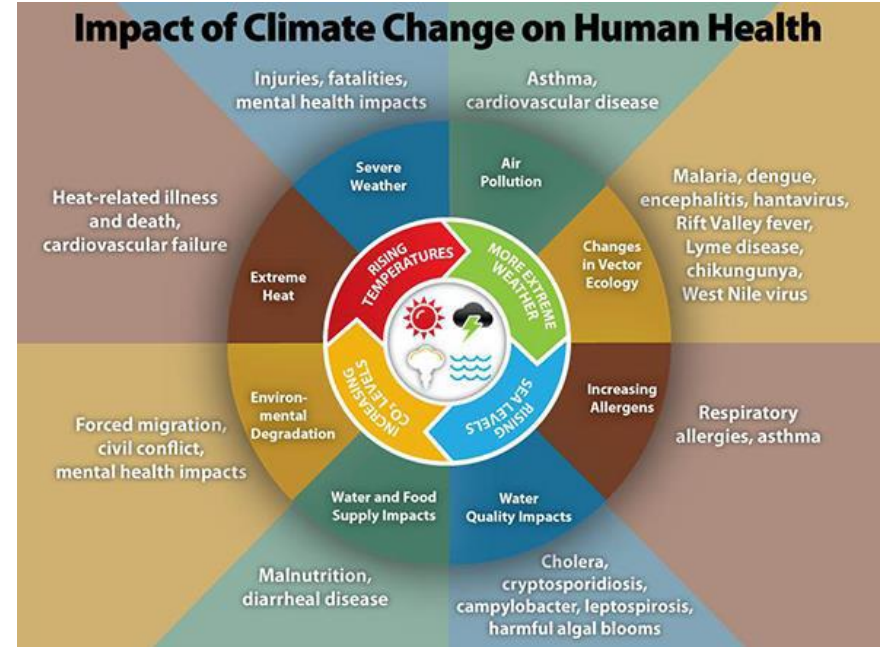
 More flooding & extreme weather events

 More heat and respiratory deaths

 Increased disease and pests

 Disruptions to agricultural systems

 Warmer, wetter weather may lead to an increase in mold and allergy-causing pollen.



<https://www.cdc.gov/climateandhealth/effects>



Health consequences of climate change

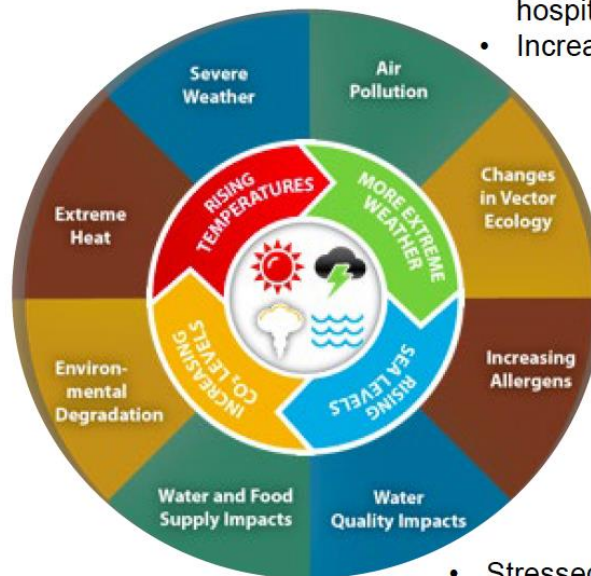
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1. Heat

- Heat Stroke
- Premature births
- Societal effects
- Death

2. Air Pollution

- Asthma
- Lung & heart disease
- Lung cancer
- Increased hospitalizations
- Increased mortality



3. Insect carrying diseases

- Lyme
- Malaria
- Asthma

4. Access to Care

- Stressed medical personnel
- Supply chain disruption
- Lack of medical resources

Image Source: CDC



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Vermont Climate & Health Alliance
Medical and Health Professionals Calling for Change

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CARBON POLLUTION

is poised to become the dominant human health threat of the 21st century.
Smart solutions that will protect our kids and grow Vermont's economy are on the table.

Democracy is a participatory sport.

We need your voice to get this kick-started.



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Health consequences of climate change

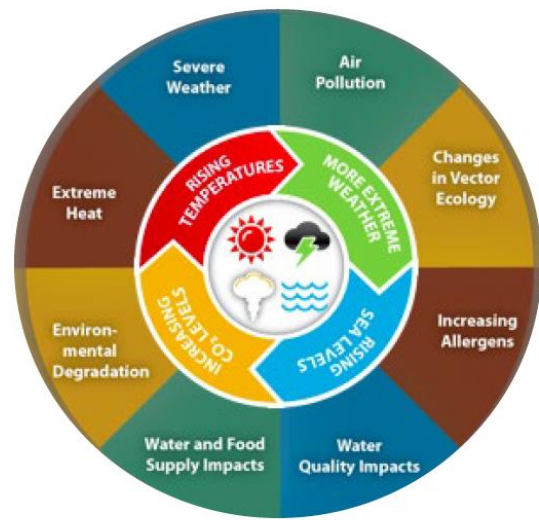
Image Source: CDC

1. Heat

2. Air Pollution

3. Diseases

4. Access to Care



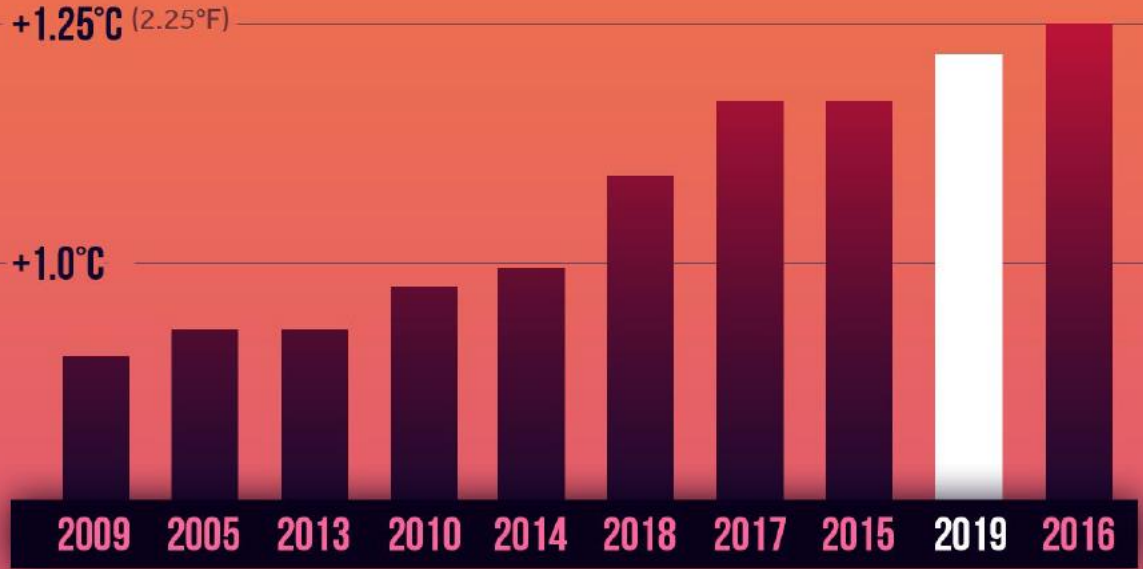


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10 HOTTEST YEARS ON RECORD GLOBALLY

Last 5 = Hottest 5



Source: NASA GISS & NOAA NCEI global temperature anomalies (°C) averaged and adjusted to early industrial baseline (1881-1910). Data as of 1/15/2020.

CLIMATE  CENTRAL



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Health Effects of Heat



- Heat stroke
- Premature births, low birth weight, and congenital anomalies
- Increasing aggression, including assaults, murders, and suicides²
- Decline in cognitive functioning: slowed response time, diminished accuracy, and less sophisticated patterns of decision-making¹
- Those at risk:
 - The most vulnerable: infants, the elderly, pregnant women
 - Those at greater risk of exposure: outdoor workers, those without air conditioning

¹Goodman, Hurwitz, Park, & Smith, 2018; ²Bulbena, Sperry, & Cunillera, 2006; Raj, 2014

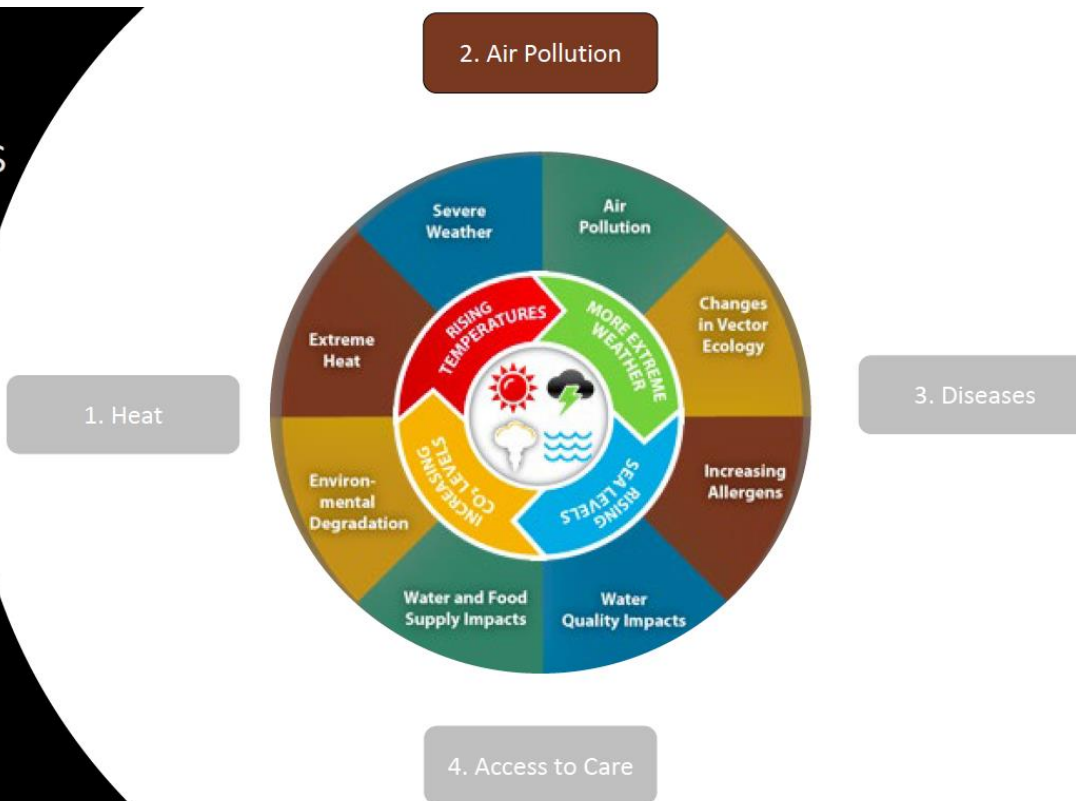




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Health consequences of climate change

Image Source: CDC





Particulate Matter

Particulate matter comes in different sizes (coarse and fine) from a number of sources including:

- Small particles: Dust, etc. from construction, mining and agriculture; Pollen
- Fine particles (**PM 2.5**): Burning fossil fuels in factories, power plants, and diesel- and gasoline-powered motor vehicles; fires

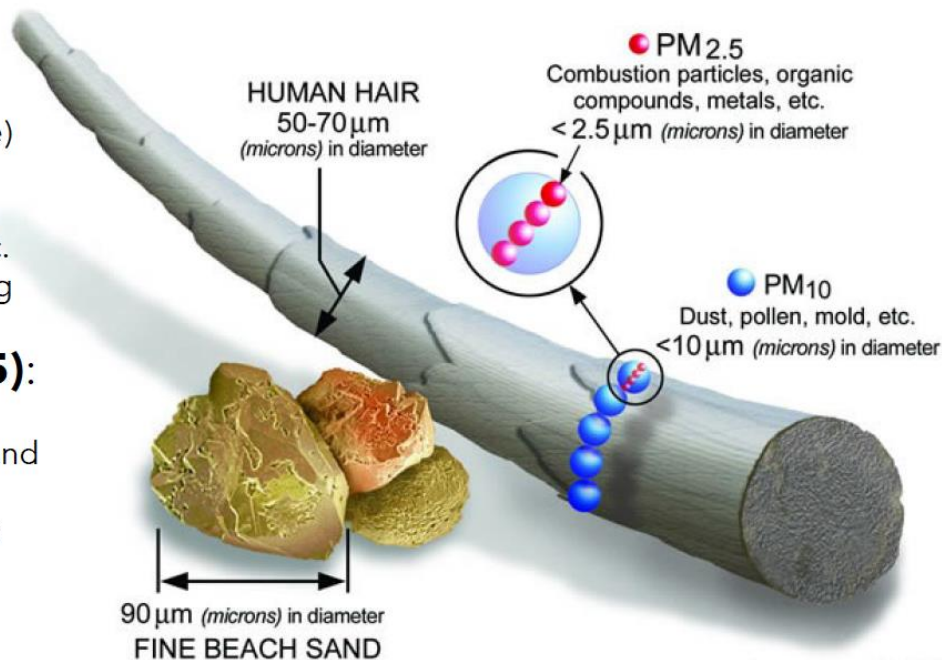
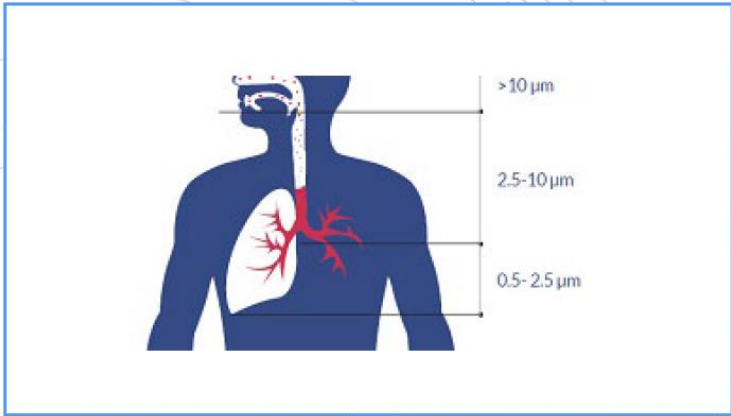


Image courtesy of the U.S. EPA



- WHY IS ABINGTON DEVELOPING A CAP?
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- COMMUNITY INPUT AND DISCUSSION



Potential health effects of PM exposure, increased risk of:
impaired respiratory function
chronic cough
bronchitis
chest illness
chronic obstructive pulmonary disease (COPD)
pneumonia
cardiovascular diseases
allergic disease and asthma
cardiopulmonary diseases
cancer

Particulate Matter – Serious Health Impacts





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Behavior

Adult Behavioral Health Risk Factor Statistics, 2017-2019

Measure	Montgomery	Interval (95%)	Pennsylvania	Comparison
Percent current smoker	10.0	(8.0 - 13.0)	18.0	Lower
Percent currently has asthma	11.0	(8.0 - 14.0)	10.0	Similar
Percent ever tested for HIV (ages 18-64)	43.0	(38.0 - 47.0)	44.0	Similar
Percent ever told they have arthritis	26.0	(22.0 - 29.0)	29.0	Similar
Percent ever told they have diabetes	9.0	(6.0 - 11.0)	11.0	Similar
Percent fair or poor general health	15.0	(12.0 - 18.0)	19.0	Similar
Percent no health insurance (ages 18-64)	8.0	(5.0 - 11.0)	9.0	Similar
Percent obese	29.0	(25.0 - 33.0)	32.0	Similar
Percent overweight	64.0	(60.0 - 68.0)	67.0	Similar
Percent visited doctor for routine checkup in the past 2 years	87.0	(84.0 - 90.0)	87.0	Similar

ND = Not displayed if sample is considered statistically unreliable. County statistics are based on statistics for the region. Montgomery County is in a region containing the counties: Montgomery. See methodology for more information.



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The 2015 Global Burden of Disease study lists air pollution as the **fourth-highest** ranking global mortality risk factor





Air Pollution and Global Burden of Disease.

2015 Estimated Annual Deaths:



Globally

- PM_{2.5} :4.2 million deaths
- Ozone: 254 000 deaths



United States

- PM_{2.5} :88,400 deaths
- O_{zone} : 11,700 deaths

Lancet., 2016 and 2017.



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Climate
change and
indoor air
quality
pollution





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Natural Methane Gas

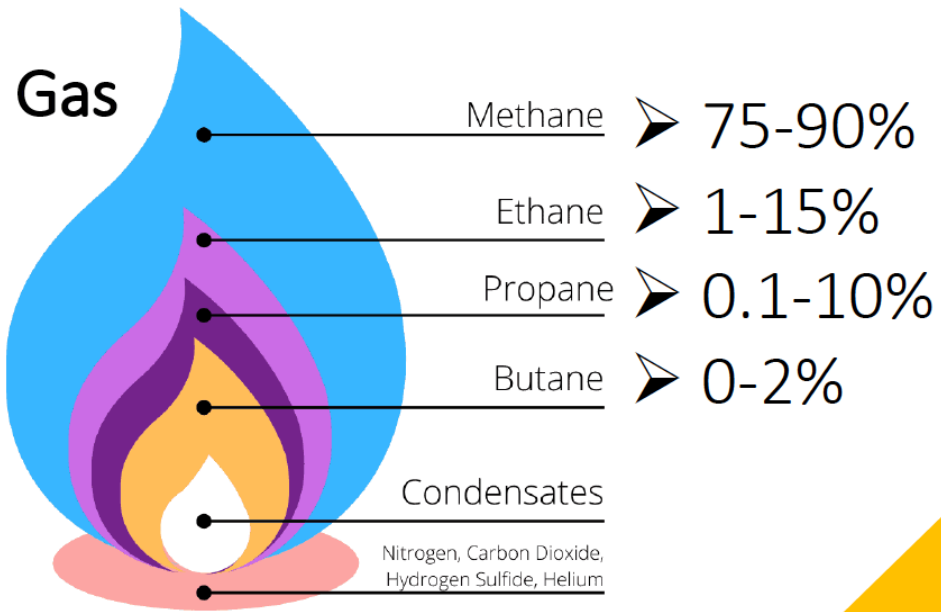


Image: Croft Production Systems

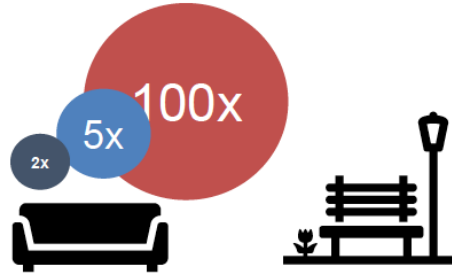


Indoor Air Pollution is Often Worse than Outdoor Air Quality

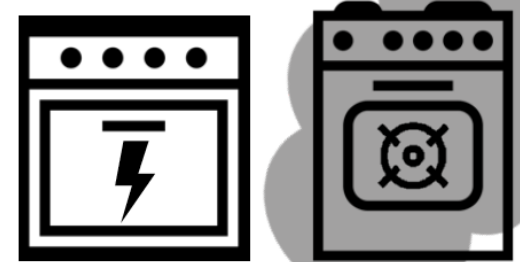
We spend up to **90%** of our time indoors



EPA states indoor pollutant levels may be **2 to 5** and as much as **100 times** higher indoors than outdoors



Homes with gas stoves have **50 - 400%** higher NO₂ emissions than homes with electric stoves

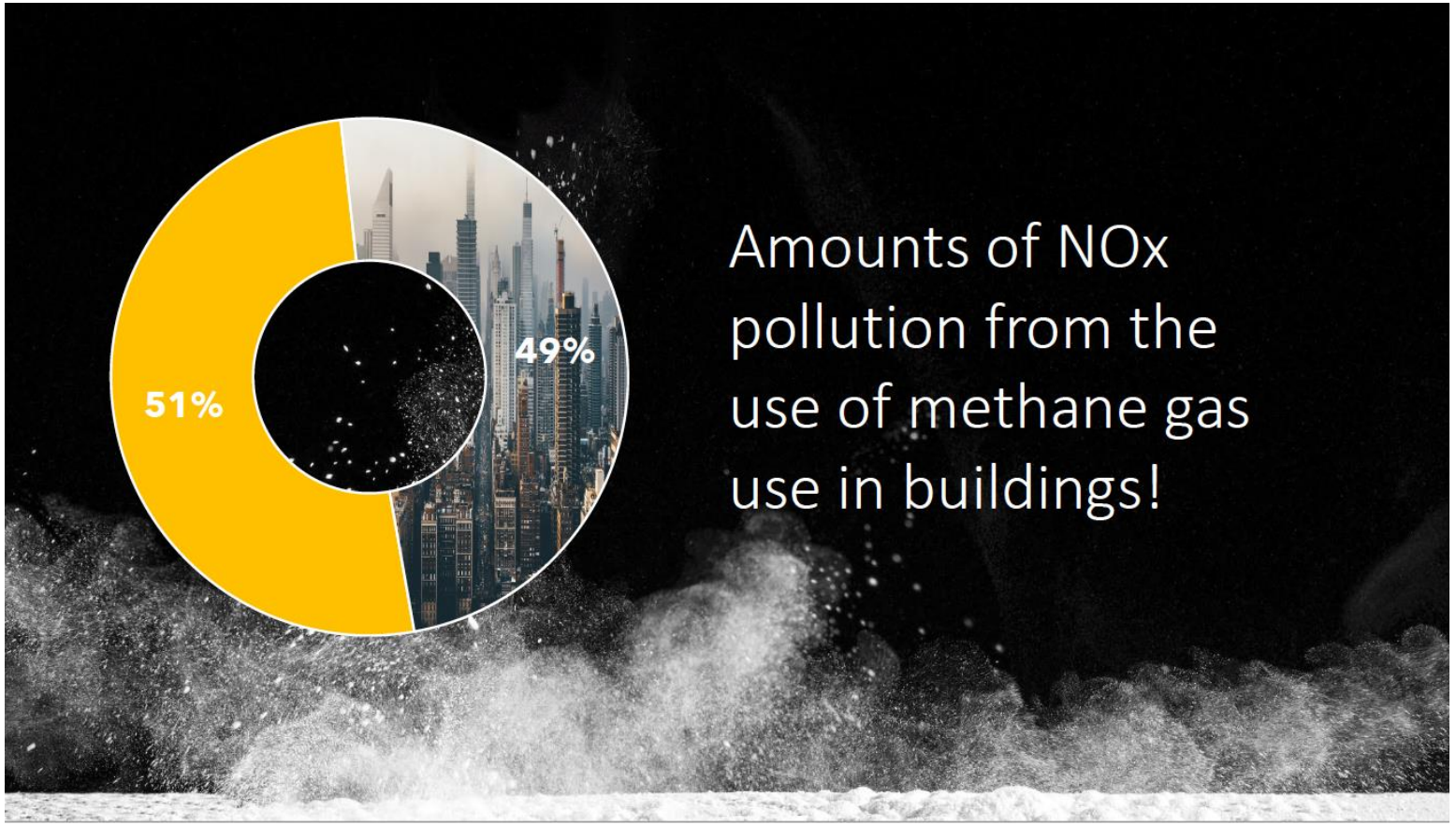


<https://rmi.org/insight/gas-stoves-pollution-health/>





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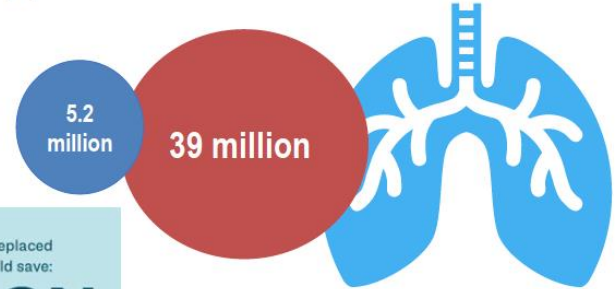
Amounts of NO_x pollution from the use of methane gas use in buildings!





What is the health cost of gas appliances? It is not zero.

Approximately **5.2 million** Californians have asthma. Annual statewide cost of asthma \$11B.



In 2018, an Australian study found that **12.3%** of the childhood asthma burden is attributable to exposure to **gas stove pollution.**

In California, if all **gas-fired appliances** were replaced with **electric alternatives**, the cleaner air would save:

\$3.5 BILLION
in Healthcare Costs Every Year



U.S. asthma costs:
\$80 billion annually

Annual per-person asthma costs:
\$3,266

Cost of an electric stove:
\$500-\$1,000

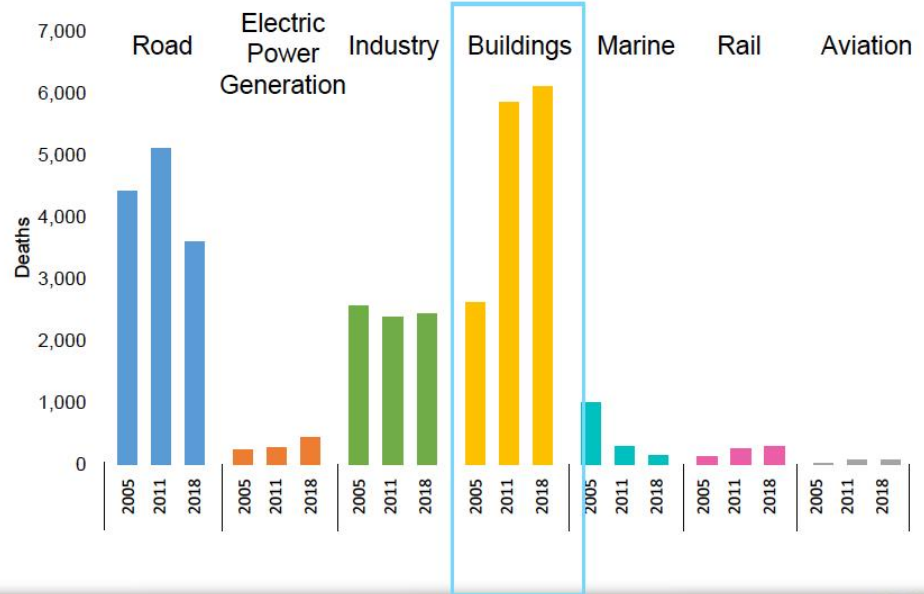
Sources: California Department of Public Health (2015-17 data), CARB, Knibbs et al., Medical Journal of Australia (2018), UCLA (2020), AJMC (2018)





Buildings are the #1 Source of Pollution-Related Premature Deaths

CALIFORNIA PREMATURE DEATHS FROM PM_{2.5} & OZONE EMISSIONS FROM COMBUSTION SOURCES (BY SECTOR)



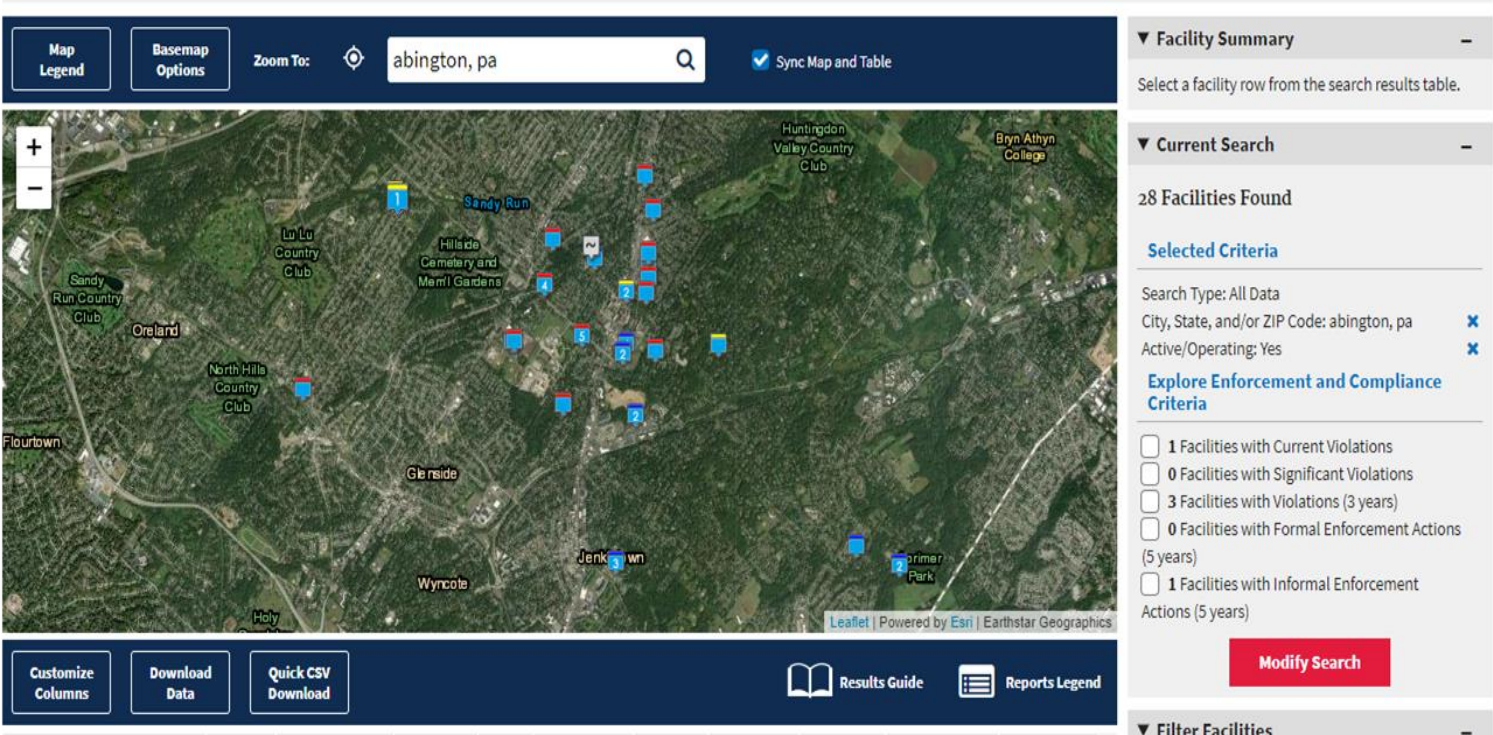
Source: Dedoussi et al., Nature Feb 2020 (MIT study- supplemental material). Graph depicts in-state and cross-state pollution.
*all combustion emission sources include gas, wood, oil, propane, etc. from the commercial and residential building sector.



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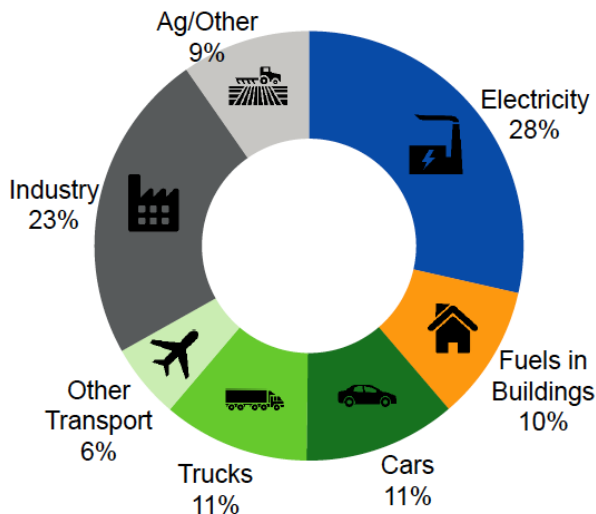
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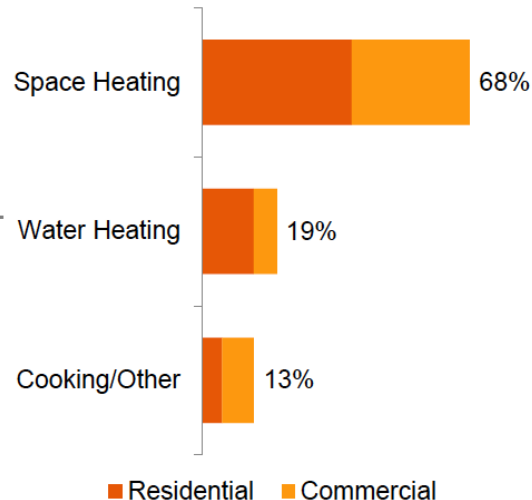


Fuels burned in 70 million homes and businesses account for 10% of US carbon emissions

Sources of US greenhouse gas emissions by share of total, 2017



Breakdown of fuel emissions in buildings

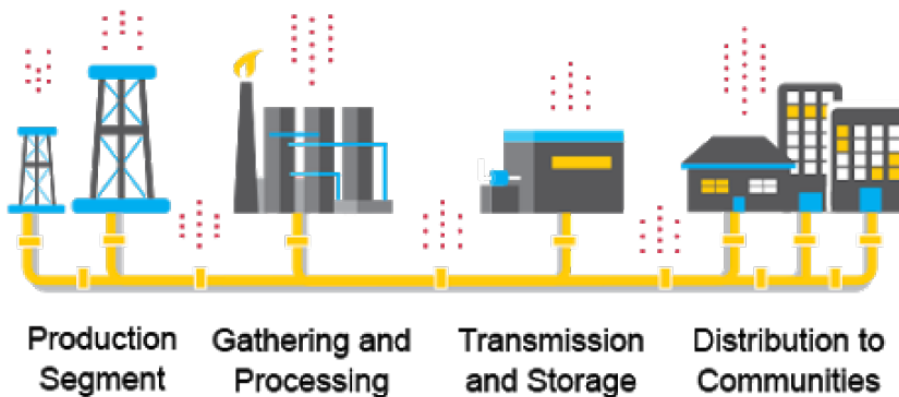


Sources: EPA Greenhouse Gas Inventory, 2017 (excludes land use, land use change, and forestry);
EIA Residential Energy Consumption Survey (RECS), 2015

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Methane leaks from all sectors of the natural gas supply chain



- **13 million tons** leaked annually
- **10 million homes** for a each year equivalent
- **~\$2 billion** in losses



Image: Environmental Defense Fund



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Methane has 84x the
GHG impact of CO₂



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Health consequences of climate change



Image Source: CDC



We will have
more nasty
bugs!



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In fact –
we already have
more nasty bugs!






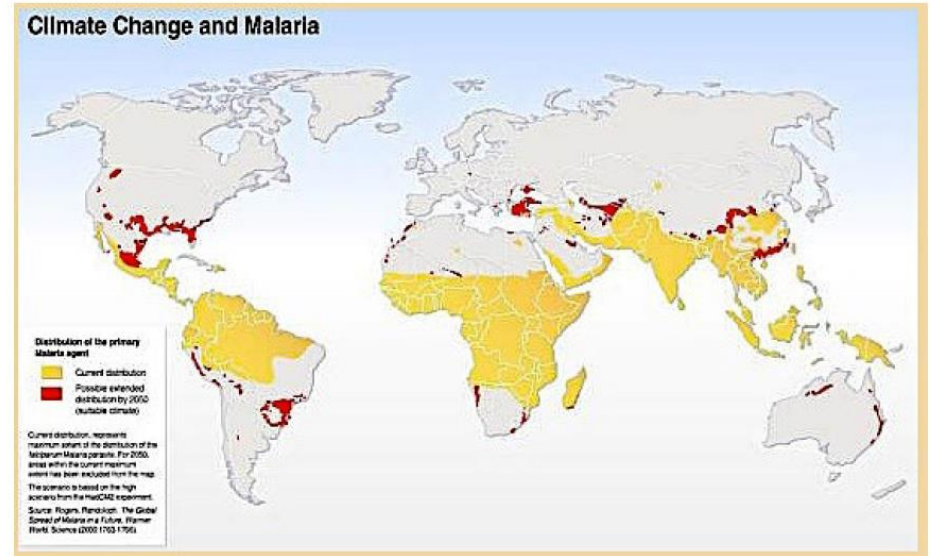
- WHY IS ABINGTON DEVELOPING A CAP?
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According to the CDC, illnesses from insect vectors have tripled in the U.S., from 2004 to 2016



Malaria: Estimated distribution by 2050


~ 1,500 cases
of malaria are 
diagnosed currently
in the U.S.

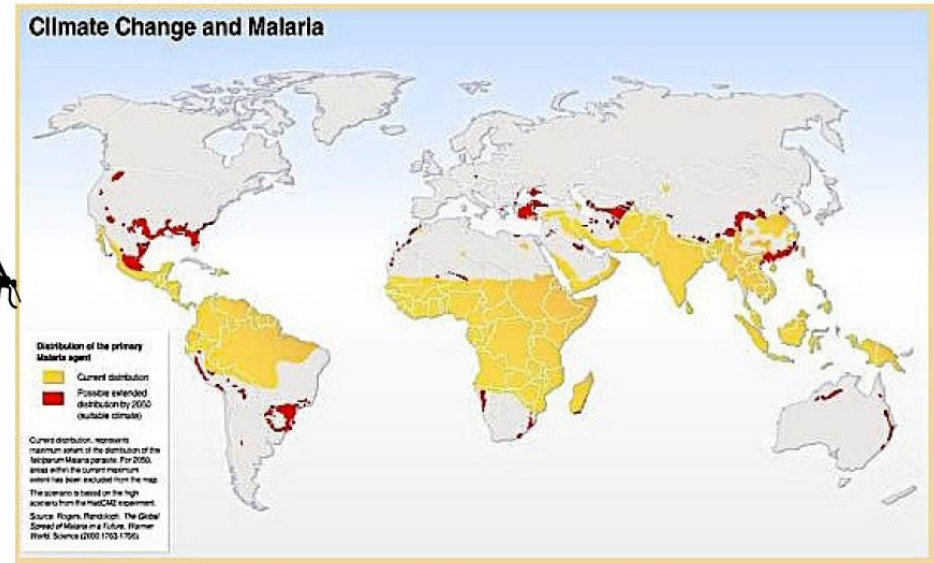


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Malaria: Estimated distribution by 2050

Rates of
malaria in the
US: 
5x higher than
1990



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Lyme Disease

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Reported Cases of Lyme Disease -- United States, 2001



Reported Cases of Lyme Disease -- United States, 2011





Lyme Disease

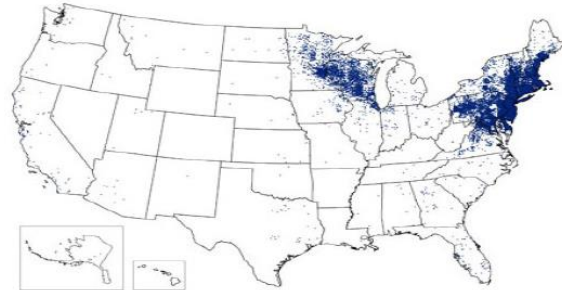
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2⁰ C increase in average
global temperature could
increase the incidence of
Lyme disease in the United
States by **20%**

Reported Cases of Lyme Disease -- United States, 2001



Reported Cases of Lyme Disease -- United States, 2011





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The Effects of Warming Temperatures

Increase in vector-borne diseases as warming increases the geographical range and lengthens the season of disease-carrying insects





Health consequences of climate change

1. Heat

2. Air Pollution

3. Diseases

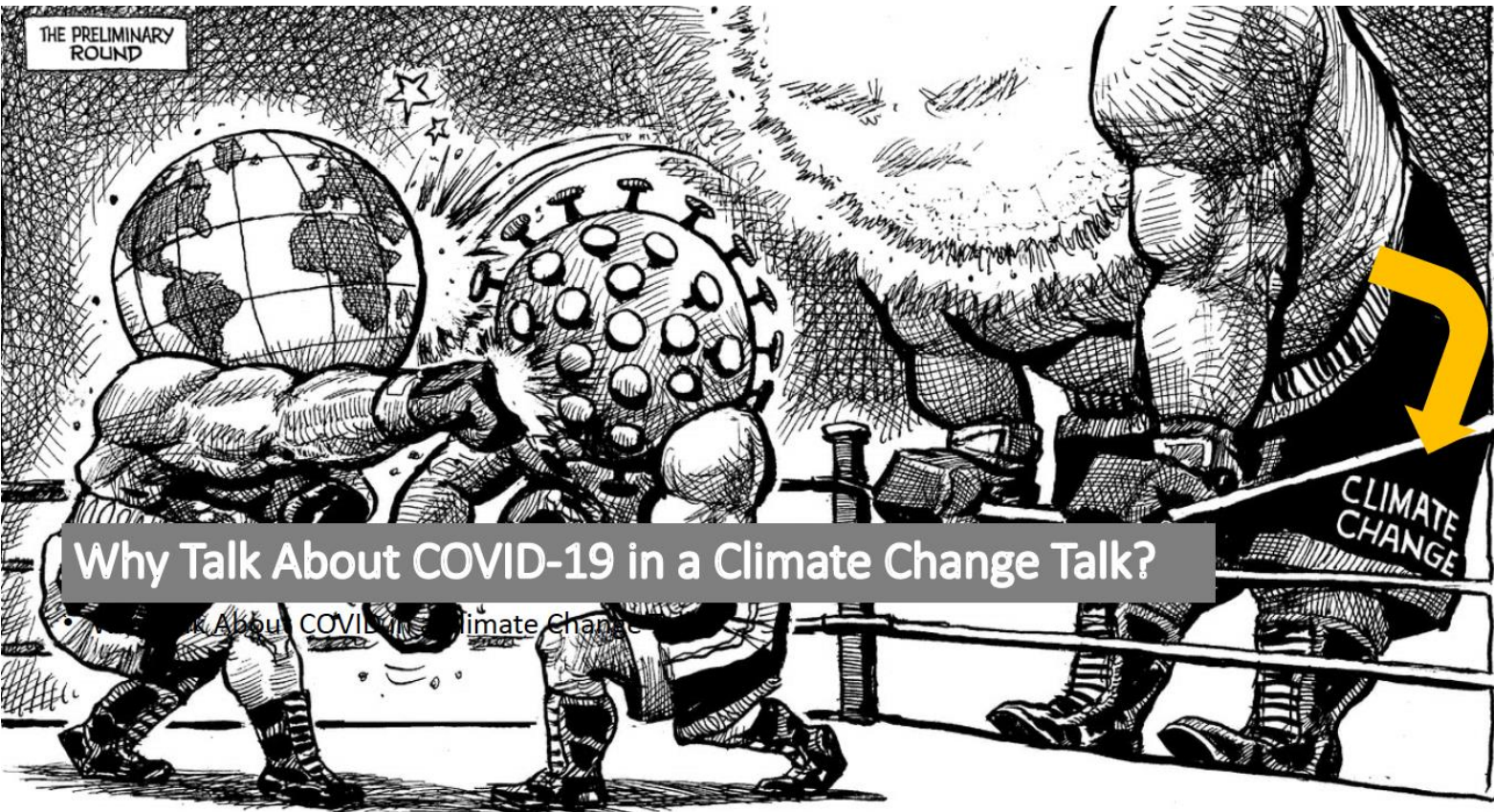
4. Access to Care



Image Source: CDC



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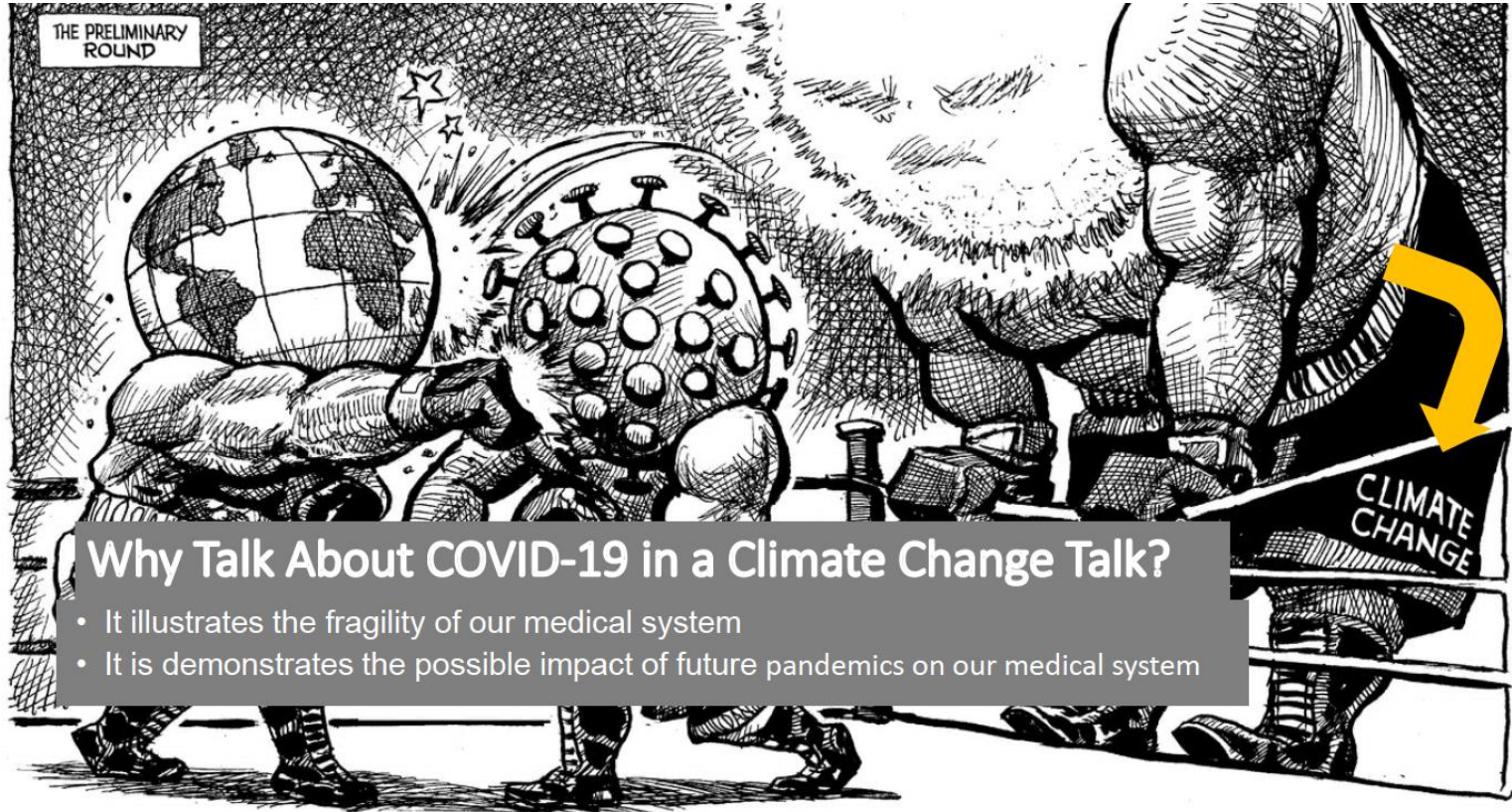
onomist.com



You ain't seen nothing yet



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Economist.com

Kal

Why Talk About COVID-19 in a Climate Change Talk?

- It illustrates the fragility of our medical system
- It demonstrates the possible impact of future pandemics on our medical system

Ask our next speaker Pastor Marshall Mitchell





What we have learned from COVID 19?

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- Resources
 - Ventilators
 - Beds
 - Personal Protective Equipment
 - Medical Personnel
- Supply chain
- Access to care



Ask our next speaker Pastor Marshall Mitchell



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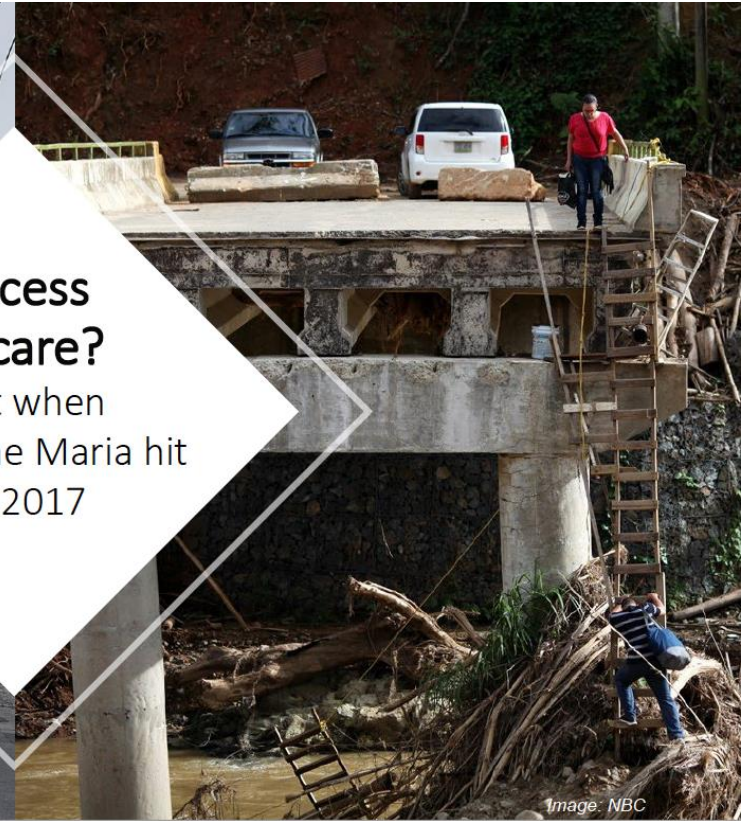
Image: LA Times



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**Access
to care?**
Not when
Hurricane Maria hit
In 2017





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Access to care? Hurricane Maria and Puerto Rico

- Limited access to food and safe water
- Contamination of water and food sources from waste, debris, and other pollution
- Increased risk from infectious diseases due to lack of safe water, adequate hygiene, and sanitation
- Disruption of services at hospitals, clinics, and other care facilities
- Reduced ability to access health care, medicines or other essential health items
- Growing burden from unaddressed chronic disease care needs, such as cancer and diabetes
- Mental health issues including stress, depression and suicide

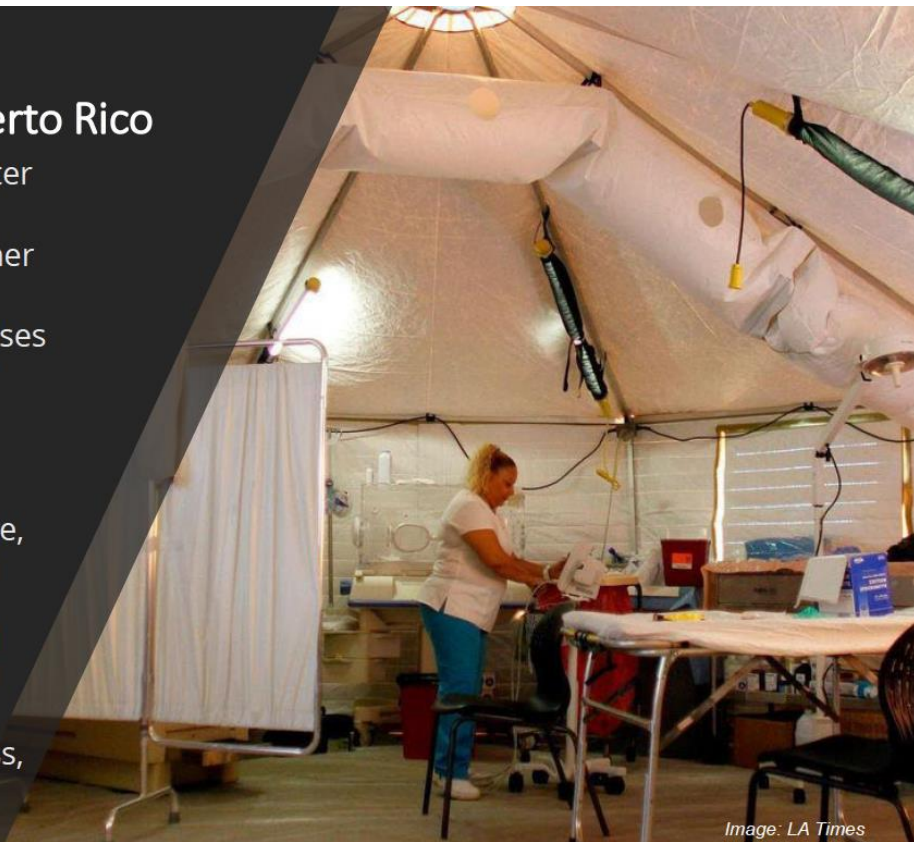


Image: LA Times



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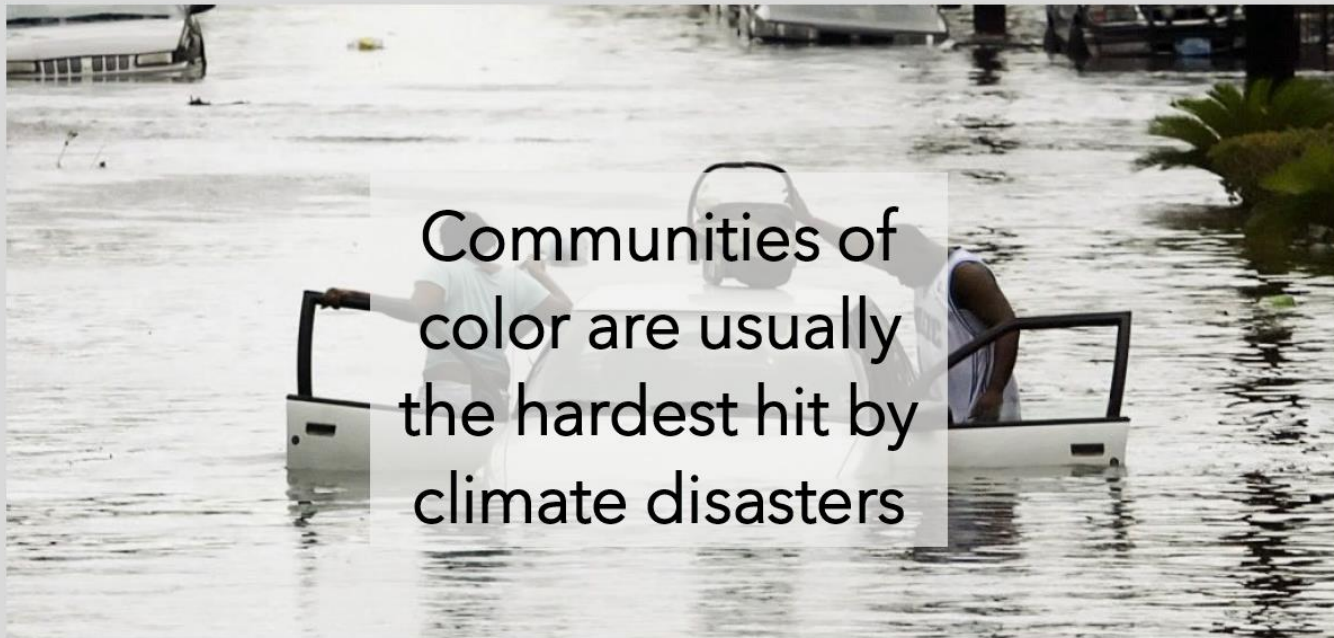


Image: Reuters





EQUITY AND ENVIRONMENTAL JUSTICE IMPACTS



PASTOR MARSHALL MITCHELL

SALEM BAPTIST CHURCH OF ABINGTON

AND ABINGTON TOWNSHIP CLIMATE ACTION PLAN

COLLABORATIVE PARTNERS



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- WHY IS ABINGTON DEVELOPING A CAP?
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What is the role of municipal level decision making in climate mitigation?

What is the role of community members in climate change decision making?





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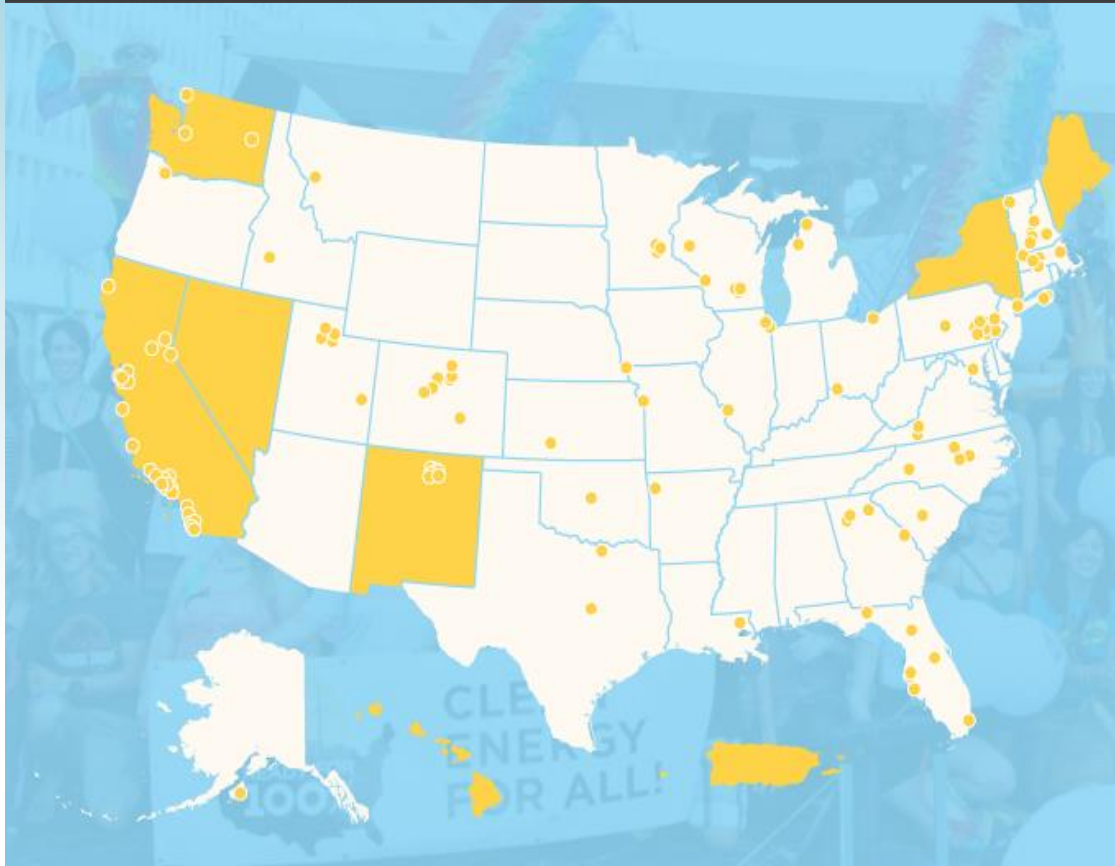
WHY CITIES?

ENDING CLIMATE CHANGE BEGINS IN THE CITY





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1 *in* 4

people in
America now live
in a community
committed to a
transition to
100% clean,
renewable energy.





SIERRA CLUB

PENNSYLVANIA



- WHY IS ABINGTON DEVELOPING A CAP?
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Leading and joining other U.S. municipalities

Communities are ready for 100%

Find a Ready For 100 campaign or city that is committed to—or powered by—100% clean energy near you. Learn more or take action now!

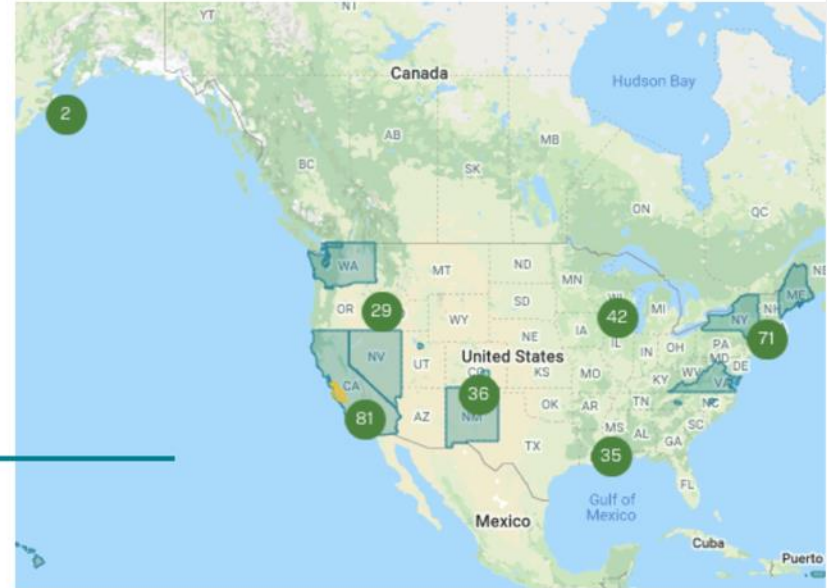
[Explore Our Map](#)

165

Committed Cities & Towns

60+

Active Campaigns



Abington Township
CLIMATE ACTION PLAN

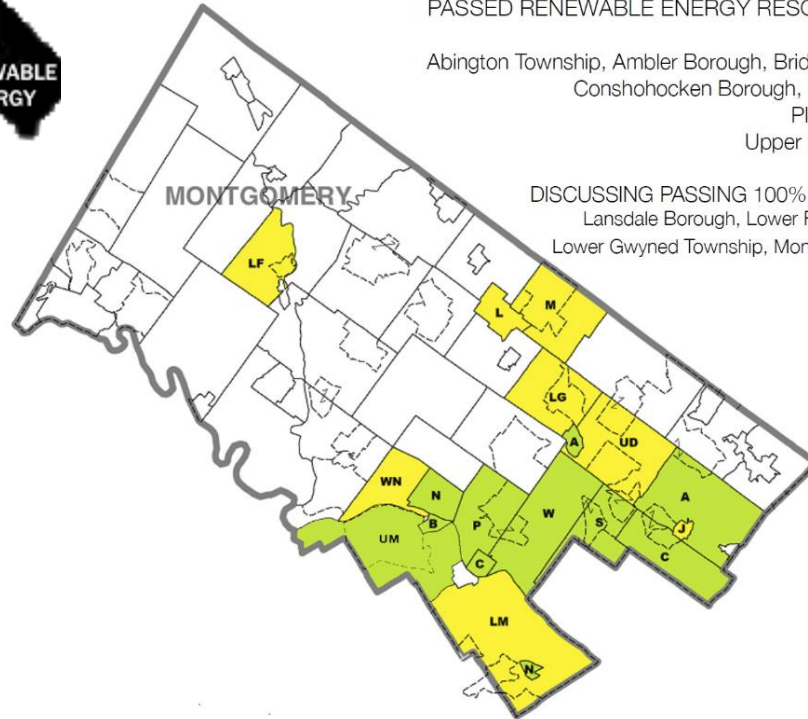


MONTCO READY FOR 100% RENEWABLE ENERGY CLEAN ENERGY COMMUNITIES

PASSED RENEWABLE ENERGY RESOLUTIONS AS OF AUGUST 20, 2019

Abington Township, Ambler Borough, Bridgeport Borough, Cheltenham Township,
Conshohocken Borough, Narberth Borough, Norristown Borough,
Plymouth Township, Springfield Township,
Upper Merion Township, Whitmarsh Township

DISCUSSING PASSING 100% RENEWABLE ENERGY RESOLUTIONS
Lansdale Borough, Lower Frederick Township, Lower Merion Township,
Lower Gwynedd Township, Montgomery Township, Upper Dublin Township,
West Norriton Township



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NOW WHAT?



- WHY IS ABINGTON DEVELOPING A CAP?
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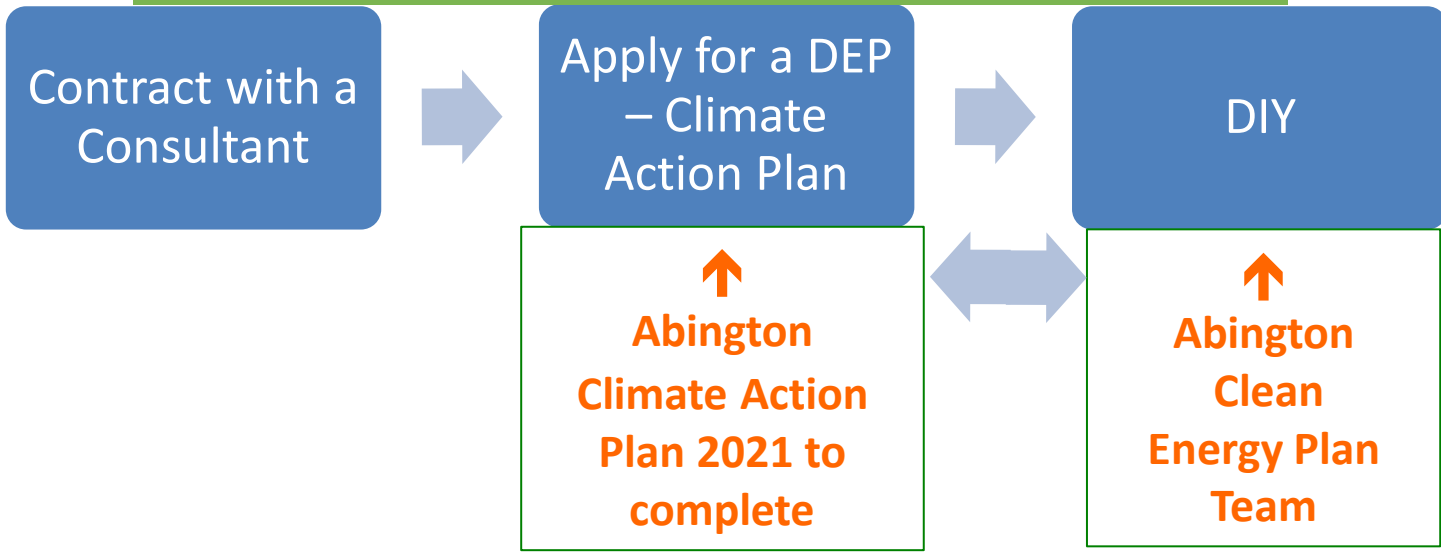
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CARBON NEUTRALITY

BY YEAR 2050

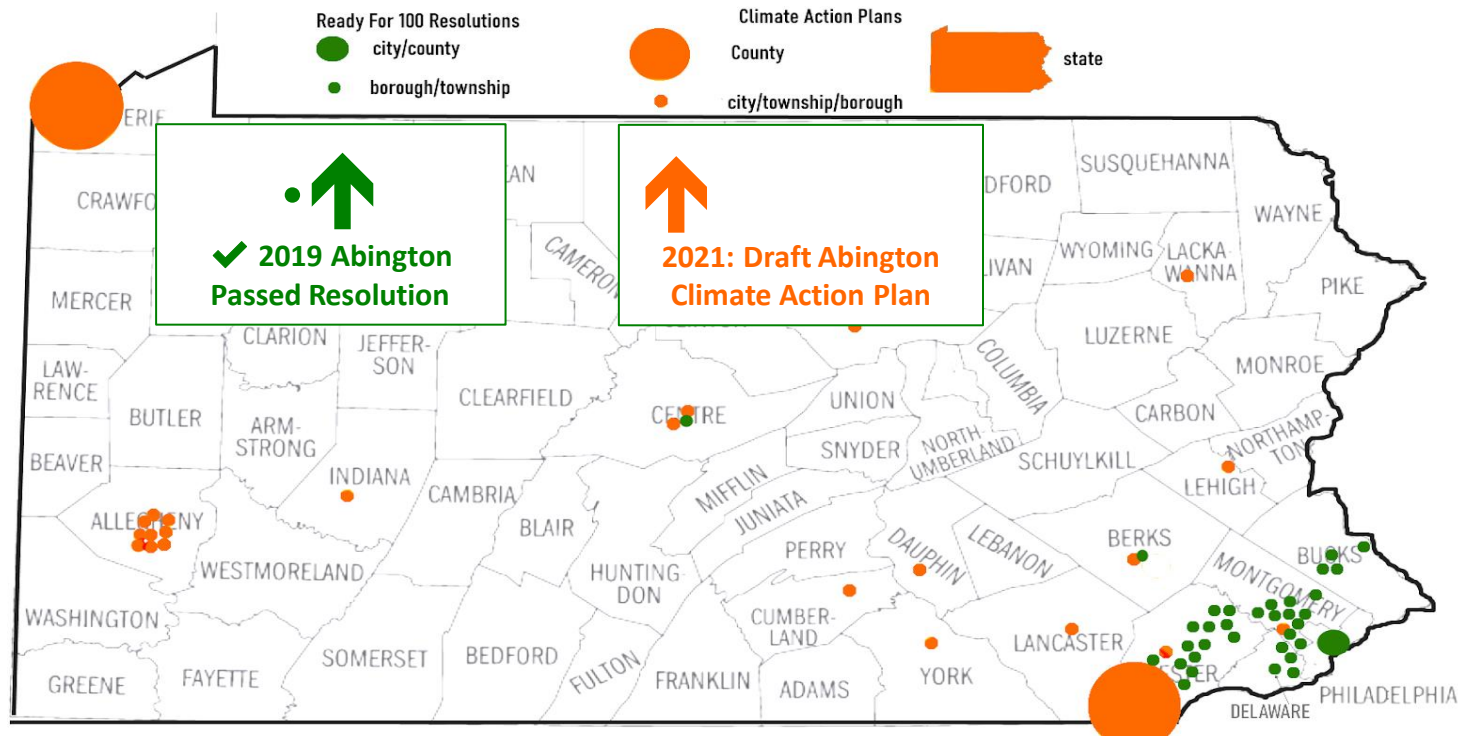
Limiting global warming to 1.5°C with no or limited overshoot requires rapid and far-reaching transitions in energy, land use, infrastructure, and industrial systems.* The good news is, the pathways are clear and feasible with existing technology!





PA COMMUNITIES WITH RESOLUTIONS OR CLIMATE PLANS

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Abington Township
CLIMATE ACTION PLAN



Local CAP Template

[Jurisdiction] Climate Action Plan



Local Actions and Policies to Reduce [Jurisdiction]'s
Greenhouse Gas Emissions

Approved by [Local Authority]

[Date Approved]

[Reference to Public Record]

[Reference to Further Information]

Produced by [Name of Lead Department or Task Force]

Through partnership with ICLEI – Local Government for Sustainability (ICLEI)



ABINGTON TOWNSHIP CLIMATE ACTION PLAN 2021 DRAFT COMPLETION

Local Climate Action Program (LCAP)

- ICLEI Local Governments for Sustainability – USA hired as contractor
- College student matched with local government
- ICLEI trains student on ClearPath inventory tool (fall semester) and climate action planning (spring semester)
- Final result: 41 GHG inventories & 40 local climate action plans

dep.pa.gov/LocalClimateActionProgram



pennsylvania

DEPARTMENT OF ENVIRONMENTAL
PROTECTION



Abington Township
CLIMATE ACTION PLAN



Who responded!

Abington **Abington Clean
Energy Plan Team**

Buckingham

Charlestown

Borough of Downingtown

East Marlborough Township

East Pikeland

Lansdowne Borough

Plymouth Township

Pocopson Township

Schuylkill Township

Solebury Township

Springfield Township

Swarthmore Borough

Tredyffrin Township

Upper Dublin Township

Upper Merion Township

Uwchlan Township

West Pikeland

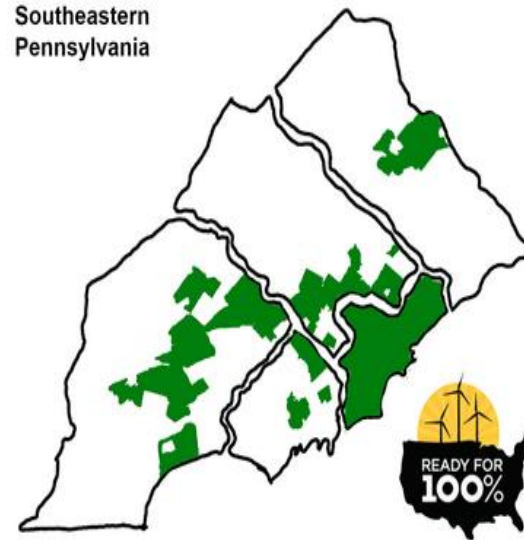
West Vincent Township

Whitemarsh

Auditors: Charlestown, Conshohocken, Lower
Providence, Phoenixville, West Bradford,

West Chester Area Council of Government
communities

Southeastern
Pennsylvania



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The Process for Developing a CESP

U.S. DEPARTMENT OF
ENERGY | Energy Efficiency & Renewable Energy



eere.energy.gov

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Abington Township
CLIMATE ACTION PLAN



FOUR TRAINING FOCUS AREAS OF THE DEPARTMENT OF ENERGY'S GUIDE TO COMMUNITY ENERGY STRATEGIC PLANNING

Energy
Procurement

Electric Vehicle
Options

Energy Management
and Efficiency

Renewable Energy
Production

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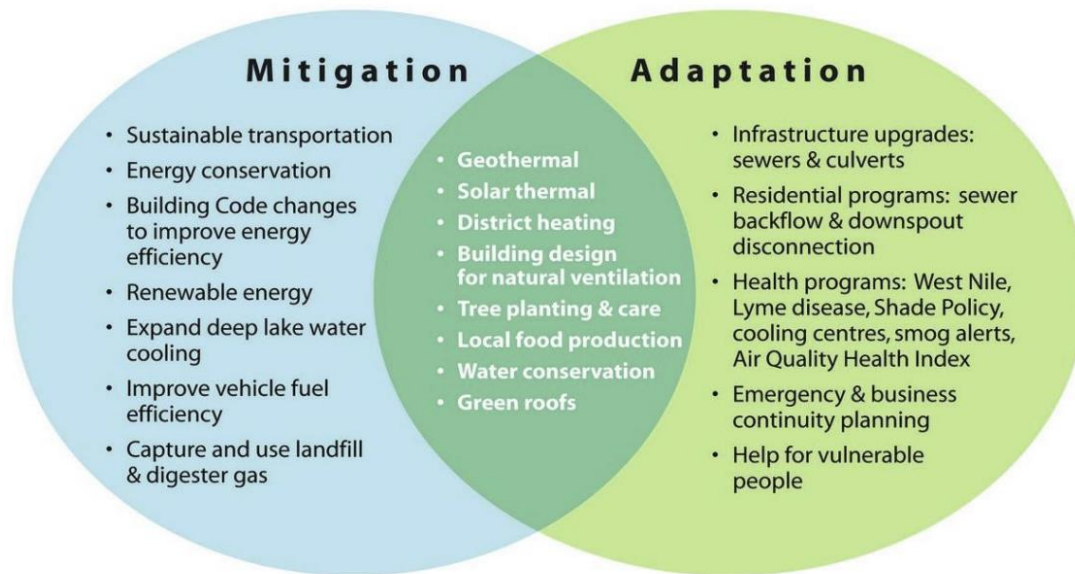
LOCAL CLIMATE ACTION PLAN

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Figure 2: Climate Mitigation vs. Climate Adaptation



Mitigation: the globally responsible thing to do

Actions that reduce the emissions that contribute to climate change.

Adaptation: the locally responsible thing to do

Actions that minimize or prevent the negative impacts of climate change.

Source: [*Natural Resources Canada's Climate Change Adaptation Initiatives.*](#)



ABINGTON TOWNSHIP CLIMATE ACTION PLAN

Road to Carbon Neutrality – Cleaning It Down Throughout Our Town



Complete
Community
GHG Inventory



Co-develop community engagement strategy and
Abington Climate Action Plan (CAP) Collaborative



Complete a climate vulnerability assessment



Forecast business-as-usual emissions
and set emissions reduction targets



Develop and post public survey and hold
1st Public Workshop on Earth Day



Develop and model mitigation and
adaptation measures



Develop implementation and
monitoring plan



Hold 2nd Public Workshop



Finalize draft CAP, post for public comment,
and hold 3rd Public Workshop



Finalize and adopt CAP by Abington Township Board of Commissioners



Abington Township
CLIMATE ACTION PLAN

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COMMUNITY EMISSIONS REDUCTION PLANNING FOR A LOCAL CLIMATE ACTION PLAN

- WHY IS ABINGTON DEVELOPING A CAP?
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Phase One

- Community wide energy and emissions profile

Phase Two

- Identification of sectors and high emitters

Phase Three

- Greenhouse Gas Emission Reduction Strategies
- Calculations of conversions required by year to meet 2050 goal

Phase Four

- Recommendations by community sector for voluntary program options





STEPS TO CREATE A CLIMATE ACTION PLAN

DATA COLLECTION for Greenhouse Gas Emissions Inventory



Phase One

- Community wide energy and emissions profile

Phase Two

- Identification of sectors and high emitters

Phase Three

- Greenhouse Gas Emission Reduction Strategies
- Calculations of conversions required by year to meet 2050 goal

Phase Four

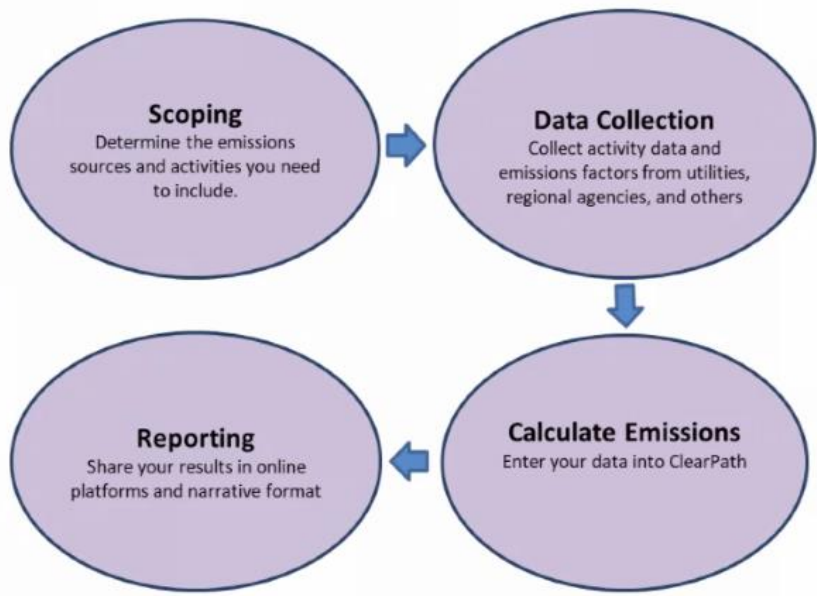
- Recommendations by community sector for voluntary program options





- WHY IS ABINGTON DEVELOPING A CAP?
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Inventory Process





DATA COLLECTION

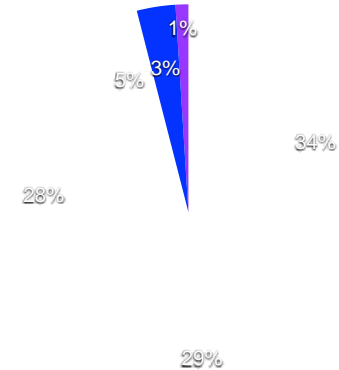
- Sent out data templates to the different utilities and emissions sources
 - Aqua for Water Treatment
 - SEPTA for Public Transportation
 - Delaware Valley Regional Planning Commission for PECO Electricity, Natural Gas, and Mobile Transportation Data
 - Abington Township Public Works for Waste Data
 - Abington Township Wastewater Treatment Plant and Philadelphia Water Dept. Northeast Facility
- Emissions factors
 - Activity Data (e.g. electricity consumption in kWh) X Emissions Factor (e.g. CO₂ Emissions/kWh consumed)
- Global Warming Potential (GWP)
 - Gases are converted into their “carbon dioxide equivalent” or “CO₂e” for final estimates of emissions
 - 1 MT Methane (CH₄) = 28 MTCO₂e





2018 ABINGTON TOWNSHIP COMMUNITY GREENHOUSE GAS (GHG) INVENTORY BY SECTOR

Emissions Sector	MTCO2 Eq.	Percent
Residential	180,519	34%
Industrial and Commercial	150,509	29%
Transportation and Mobile Sources	147,367	28%
Solid Waste	23,957	5%
Water and Wastewater	18,1223	3%
Process and Fugitive Emissions	4,657	1%
Agriculture, Forestry, Other Land Use	139	0.03%
Total 2018 Abington Community GHGs	525,271	100%



**91% of Abington's Community GHGs are from our
1. Residential 2. Commercial and Industrial and
3. Transportation Sectors**

Source: Abington Township Community GHG Inventory through the PA DEP 2020-2021 [Local Climate Action Plan Program](#) with [ICLEI technical assistance and training](#)

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ABINGTON TOWNSHIP COMMUNITY GHG INVENTORIES TO DATE AND ANALYSIS OF 2015-2018 CHANGES

Year	Annual MTCO2 Eq.	Percent Change Since 2005 Baseline
2005	657,944	Not Applicable
2010	615,224	-6.5%
2015	522,037	-20.7%
*2018	525,271	-20.2%

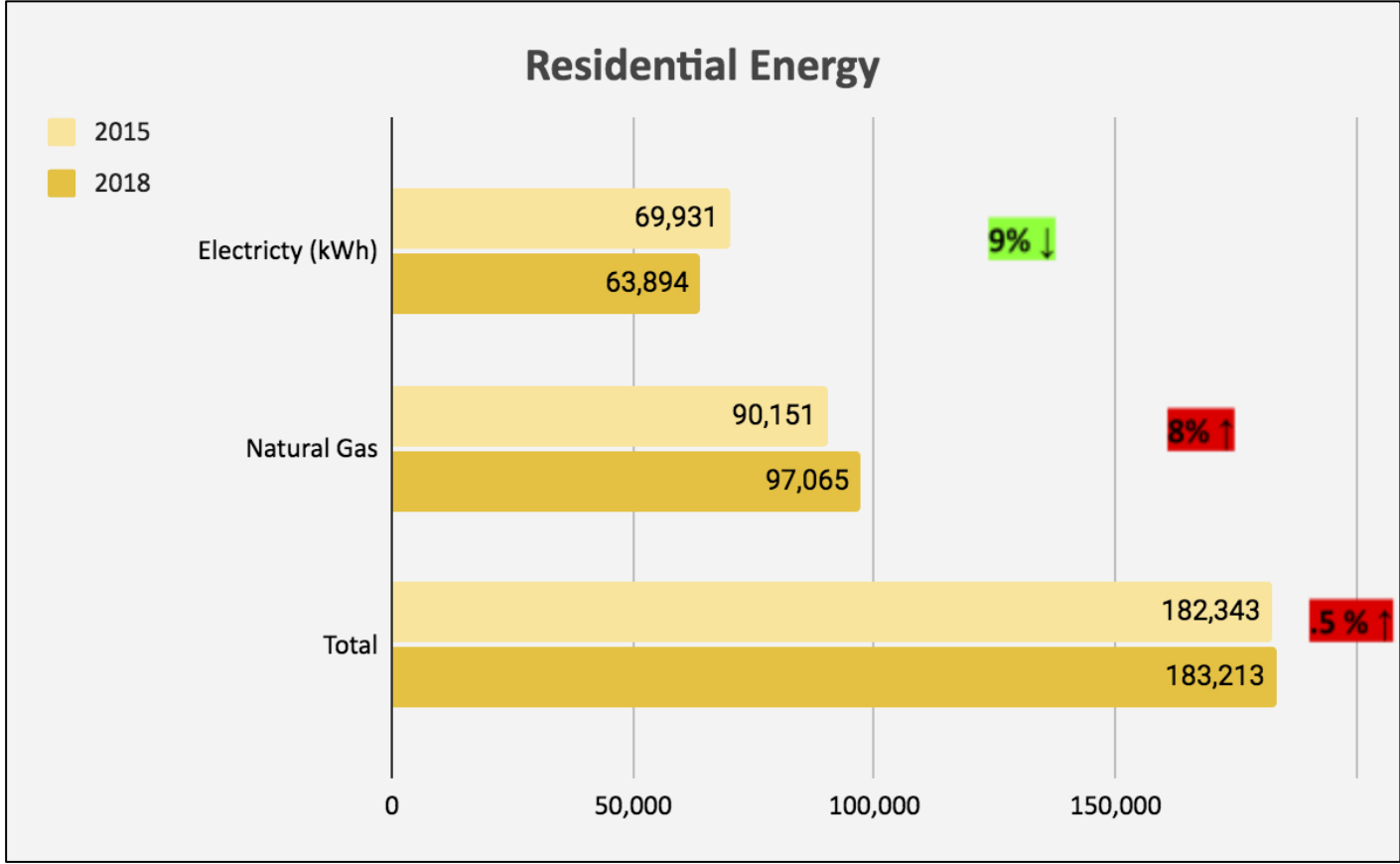
*Note: The 2005, 2010, and 2015 GHG inventories were conducted by [DVRPC GHG inventory methodology](#). The 2018 Abington inventory utilized [ICLEI's ClearPath tool](#) as part of the [PA DEP's](#) technical assistance to the Township to conduct its own GHG inventory. This difference in methodology may account for the 2015 to 2018 increase. ClearPath is the most used and accepted online software tool for completing greenhouse gas inventories.



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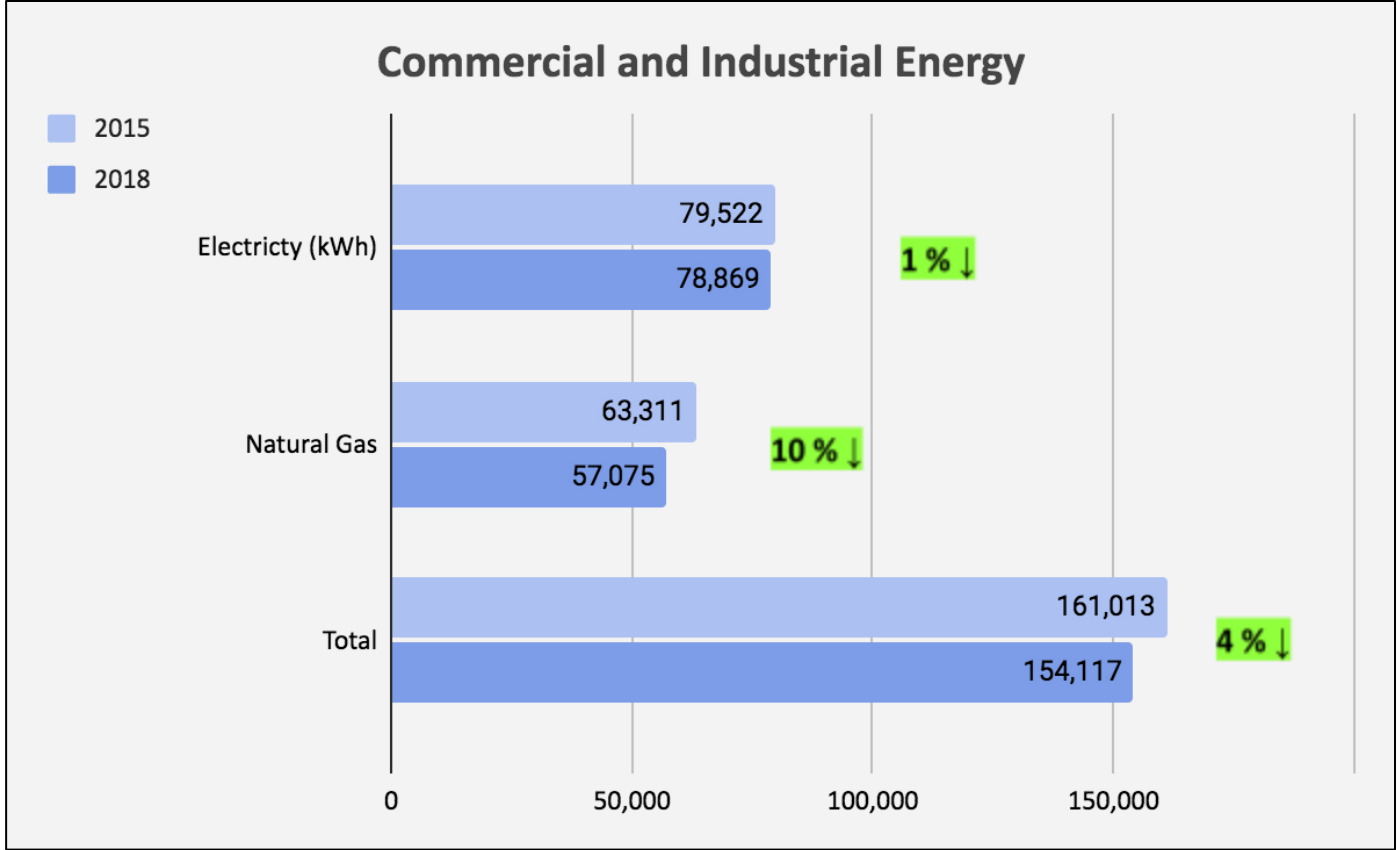


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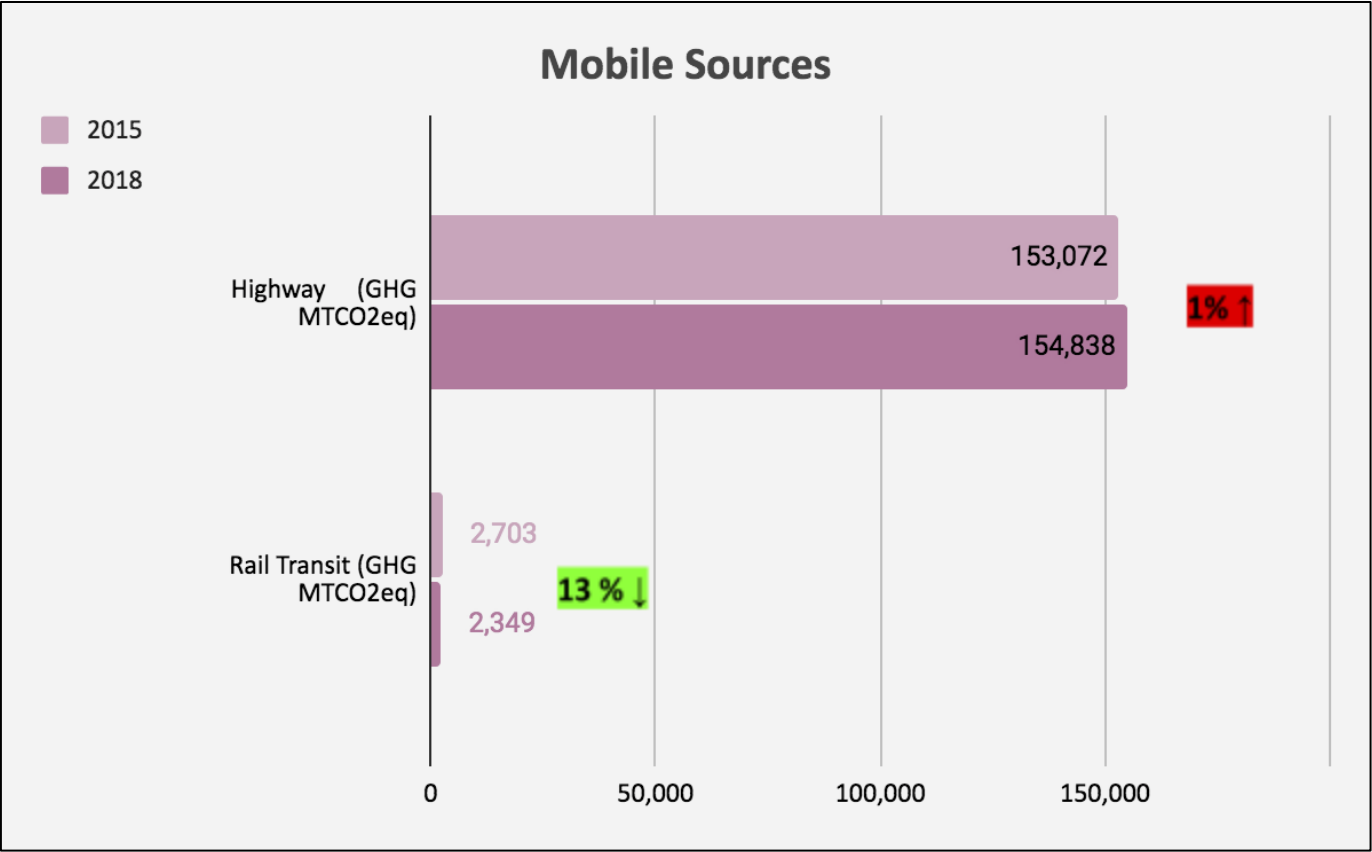


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WHAT IS A CLIMATE ACTION PLAN (CAP)?

Abington's township-wide, comprehensive roadmap to:



Reduce greenhouse gas emissions



Increase adaptation and resilience to climate change

While delivering additional benefits:



Social



Environmental



Economic



Source: [City of Bethlehem](#)



WHAT IS IN A CLIMATE ACTION PLAN (CAP)?

The Climate Action Plan is a roadmap.
Implementation follows the release of the plan.

- WHY IS ABINGTON DEVELOPING A CAP?
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Source: [City of Bethlehem](#)

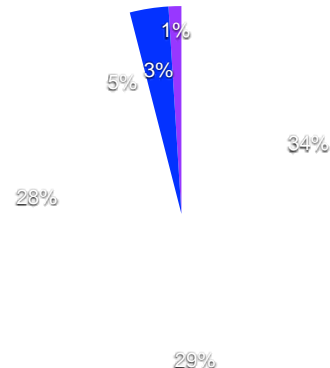


ABINGTON COMMUNITY-WIDE GHG INVENTORY

The inventory serves as the baseline for our community goals. The inventory will be refined and updated over time to measure progress.

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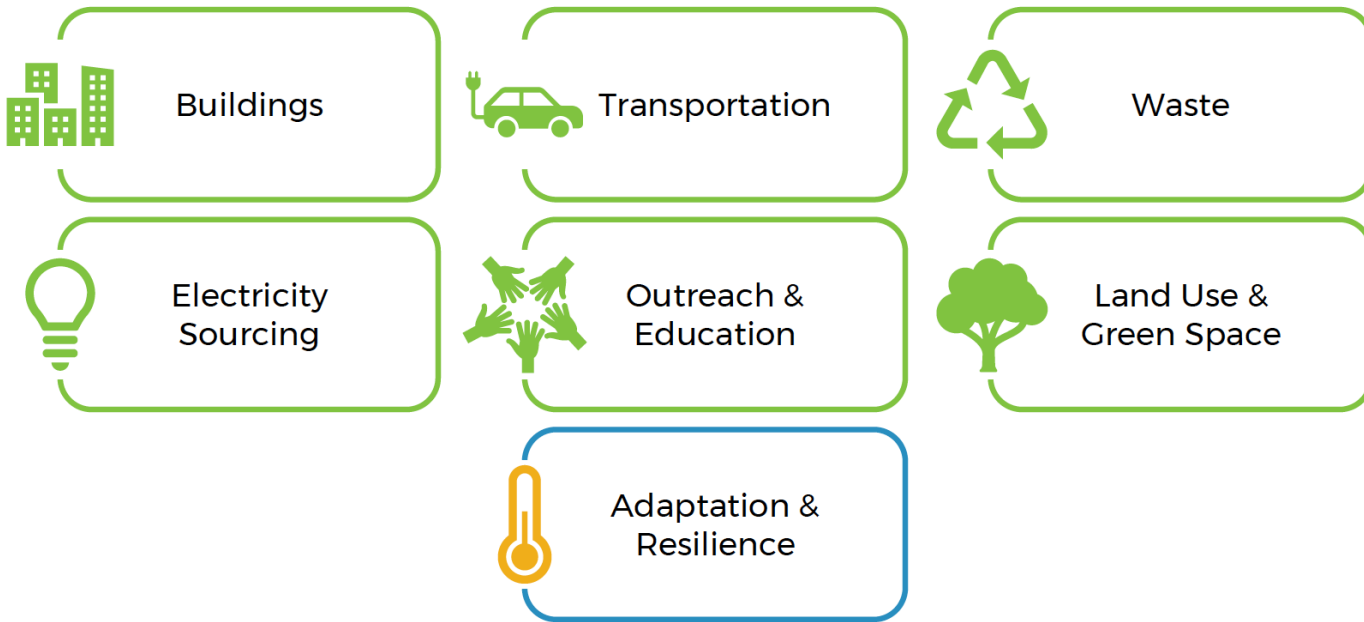




STRATEGY AND ACTION AREAS

Strategies will be categorized by emission-reduction sector (**green**) and to increase the community's resiliency and protect vulnerable populations (**blue**)

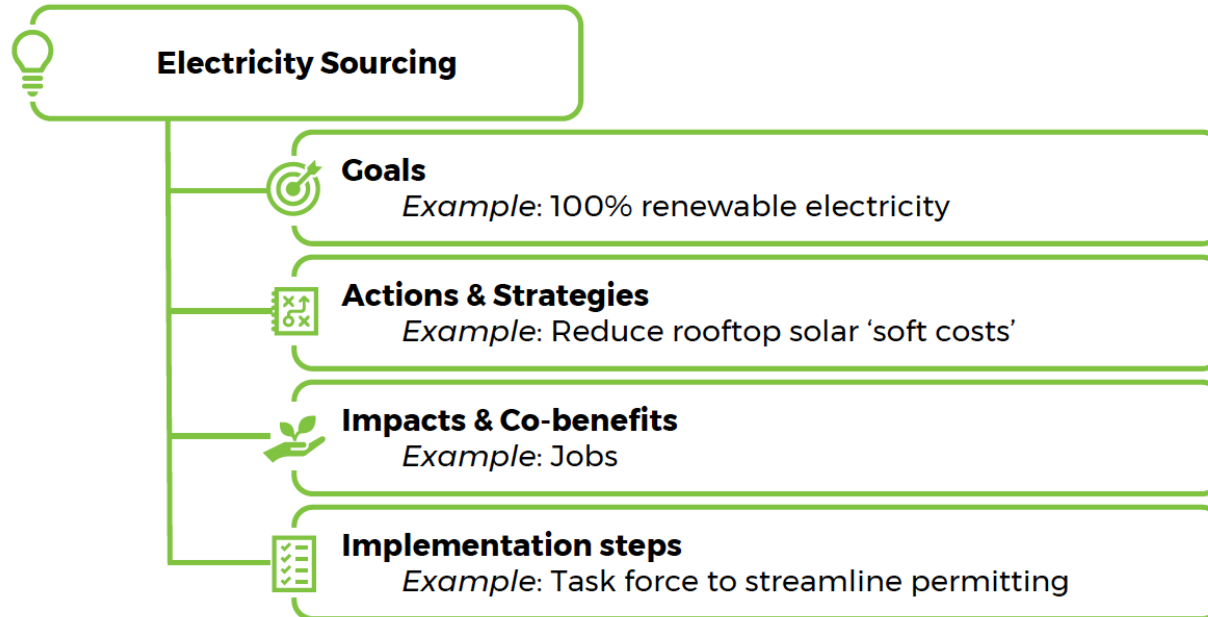
- WHY IS ABINGTON DEVELOPING A CAP?
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EXAMPLE ACTION AREA COMPONENTS

Each action area will include a roadmap to achieve goals.



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CAP SCHEDULE AND APPROACH

Abington Township Climate Action Plan

Road to Carbon Neutrality - Cleaning It Down Throughout Our Town



Abington Township
CLIMATE ACTION PLAN

- WHY IS ABINGTON DEVELOPING A CAP?
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CAP SCHEDULE AND APPROACH

- Develop targets, strategies and goals
(April 23-May 15, 2021)
- Public Meeting 2 on targets, strategies and goals
(May 15-May 30, 2021)
- Public Meeting 3 to gather feedback on draft CAP
(May 31-July 31, 2021)
- Finalize and adopt CAP by Abington Township Board of Commissioners (August 1-September 30, 2021)

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ONLINE MAPPING TOOL IN DEVELOPMENT

Example of a tool to map our community hazards

- WHY IS ABINGTON DEVELOPING A CAP?
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Mapping your Community Hazards
Extreme Heat: Lack of Shade • Lack of Air Conditioning • Lack of Nearby Cooling Source
Flooding: Roadways • Buildings
and **Other Hazards**

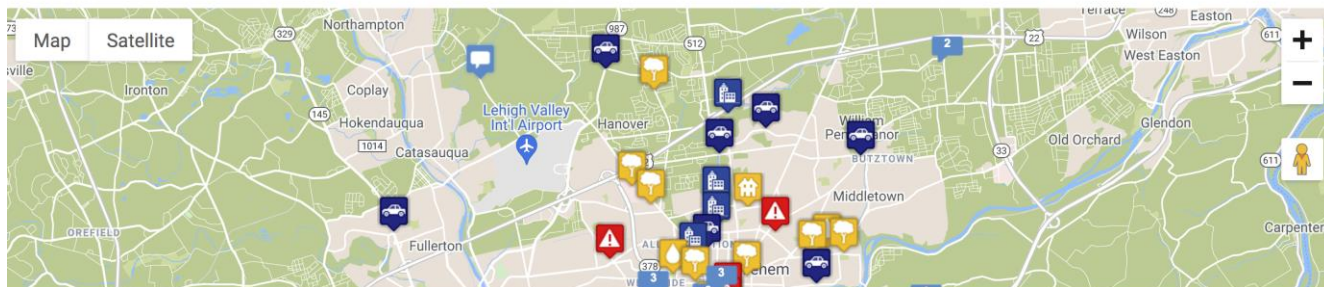
Think about the topics above as they apply to your own neighborhood. We would like you to locate and comment on sites that relate to these topics.

You can use the links in the menu to the left to navigate to areas of Bethlehem or zoom in to your neighborhood on the map with the plus and minus icons to the right.

Click a location to drop a pin. After you choose a location, a comment box with a drop down menu will let you choose the pin topic and leave a comment.

Please use the comment field to describe the site, such as the name of the closest intersection, street, park or landmark.

You may also add details on the climate impact, such as the severity of damages from flooding. You are welcome to pin as many sites as you like.



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Select Language | ▼

Source: [City of Bethlehem](#)



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Mapping tool menu with list of climate change indicators

50 Comments

We are collecting citizen feedback about where you live and work.

Filter Map Comments *

North Side
South Side
West Side

▼ A Comment

- Extreme Heat Lack of Shade Bus Stop
- Extreme Heat Lack of Shade Sidewalks
- Extreme Heat Lack of Shade Park or Public Gathering Point
- Extreme Heat Lack of Air Conditioning Private Residence
- Extreme Heat Lack of Air Conditioning Commercial or other building
- Extreme Heat Lack of nearby cooling source (no pool, public cooling center, etc.)
- Flooding Roadway
- Flooding Buildings Private Residence
- Flooding Buildings Commercial or other building
- Other Hazards

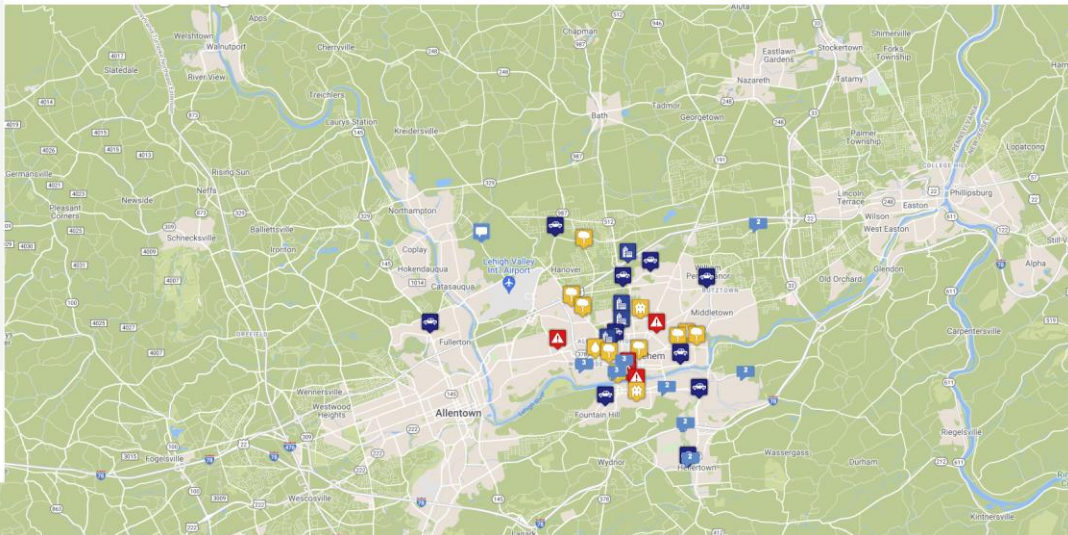
Please refer to the comments as not to be posted if they are flagrant or contain offensive language.



Mapping your Community Hazards

Extreme Heat: Lack of Shade • Lack of Air Conditioning • Lack of Nearby Cooling Source
Flooding: Roadways • Buildings and Other Hazards

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Source: [City of Bethlehem](https://www.bethlehempa.gov/cap)





HOW TO STAY ENGAGED

- **Visit AbingtonPA.gov/ClimatePlan for updates**
 1. Look for Abington's Community CAP Survey there on May 1, 2021
 2. Use the Online Mapping Tool there to share climate your climate change feedback by geographic location
- **Continue to participate in Public Meetings**
- **Volunteer for the plan or organize community engagement**
- **Talk with your friends, family, neighbors, co-workers and community based organizations, sports, or faith based institutions to educate them about climate change and Abington's CAP**

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POLLING QUESTION 1

Question: Which of the following goals do you think should guide the development and prioritization of the Climate Action Plan strategies?

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- *Reduce GHG emissions*
- *Improve resilience*
- *Improve equitable outcomes*
- *Promote jobs and economic opportunities*
- *Reduce local air pollution (particulate matter, ozone, etc.)*
- *Create immediate impacts (show building owners and residents how to save on their energy costs)*
- *Up-front cost-effective and affordable*
- *Long-term investment and benefits*





POLLING QUESTION 2

Question: Would you be willing to switch to renewable electricity if you knew you would save money? Right now rates are as low as 5.29 per kWh compared to PECO's rate of \$6.60/kWh (To learn how visit MakeBenProud.com or send an email to EAC@AbingtonPA.gov to learn exactly how to do this).

— *Yes*

___ *No*

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POLLING QUESTION 3

Question: Would you be interested in helping to create a community solar program to save homeowners and businesses on the costs of using solar through community aggregation (e.g. reduced costs through vetted contractors for our community or a program that makes it easier and less expensive to get permission for solar?)

— Yes

___ No

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QUESTIONS AND ANSWERS AND HOW TO STAY ENGAGED

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700,000
MTCO₂E

525,000
MTCO₂E

350,000
MTCO₂E

175,000
MTCO₂E

NET ZERO



**CLIMATE ACTION PLAN
COLLABORATIVE**

AbingtonPA.gov / ClimatePlan
ClimatePlan@AbingtonPA.gov

Thank you for doing your part to
Bring Emissions Down Throughout Our Town